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IMPERIAL MYCOLOGICAL INSTITUTE 27 JAN 1939

Vol. XXXIX. No. 12 DECEMBER 5th, 1938 Price 6d.

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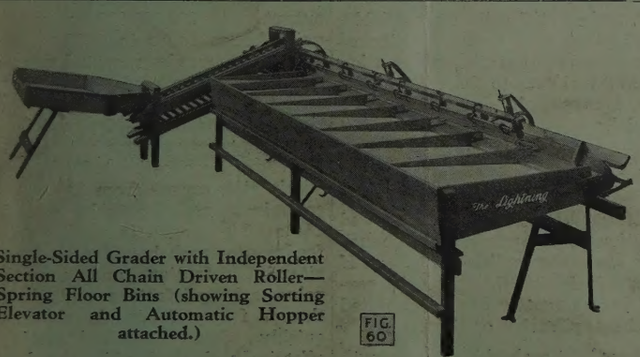

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INTERESTING EXPERIMENTS WITH NITROGEN.

A VERY comprehensive series of fertiliser experiments covering a period of ten years, was completed recently by Dr. Franklin L. Davis, Soil Technologist, U.S.A.

The experiments were designed to determine the effect of different types of nitrogenous fertilisers on (1) the yield of the crop, (2) the acidity of the soil, (3) the availability of phosphorus in the soil.

Nine different sources of nitrogen were used and all treatments were replicated four times.

The result of the ten years' experimental work is reported on in the "American Fertiliser," May, 1938. The largest yields for the ten-year period were obtained from nitrate of soda and nitrate of soda-potash.

Dr. Franklin L. Davis made determinations of the soil reaction of each plot at the conclusion of the ten-year period of experimentation. It was found that the plots which did not receive nitrogen in the form of nitrate of soda were relatively acid in reaction. It was also found after ten years of continuous fertilising that the plots receiving different sources of nitrogen showed considerable variation in the amount of readily available phosphorus in the soil. Here again, plots which received nitrogen in the form of nitrate of soda contained larger amounts of readily available phosphorous than did the plots which received dressings of other nitrogenous fertilisers. Indeed, it was shown most clearly that the acid forming nitrogenous fertilisers did increase the acidity of the soil and reduce the amount of phosphorus which is readily available for plant growth.

Although Dr. Davis' findings were in regard to cotton and of little value to Australian farmers as cotton growing is not one of our major industries, yet the experiments do serve to demonstrate in a very convincing way that the importance of nitrate of soda for supplying plants with their nitrogen requirements.

The other matters investigated by Dr. Davis, however, are of fundamental importance to all Australian farmers. Undoubtedly, certain forms of nitrogenous fertilisers have a residual detrimental effect owing to the manner in which they increase the acidity of the soil. It is well known that Australian soils are generally deficient in available phosphorus, and as a result superphosphate has been very widely used to rectify this natural deficiency. The work of Dr. Davis has shown clearly that acid-forming nitrogenous fertilisers not only increase the acidity of the soil, but also deplete the supply of readily available phosphorus.

Under existing economic conditions it should be the policy of every intelligent farmer, orchardist, and market gardener to do his utmost to conserve and improve the fertility of his soil.

Nitrogen supply is such an important factor in profitable agricultural production that the grower is well advised to consider an alkaline source of nitrogen such as Chilean granulated nitrate of soda, in relation to the maximum yields that may be obtained without risk of increasing soil acidity and reducing the amount of available phosphorus in the soil.

LIME FOR THE SOIL.

Lime is an essential ingredient of the soil on account of the important part it plays in both plant and animal nutrition. On lime-deficient soils plant growth is generally backward and livestock are subject to constitutional weakness and such diseases as rickets.

Apart from its manurial value, lime plays an important part in correcting certain soil conditions which militate against successful cropping. The following are the principal ways in which its use is beneficial in this connection:

1. It makes stiff soils more friable, thus allowing of a finer condition of tilth and promoting the penetration of air and moisture to the roots of the plants, even a light dressing is very beneficial.

2. It neutralises acids formed by the decay of organic matter and sweetens land that has become sour from long stagnation; ploughing and cultivation only would take much longer to accomplish this. If drainage is faulty this must be corrected before results can be expected from the application of lime.

3. It assists in checking the growth of certain weeds.

4. Combined with proper conditions of temperature and moisture, it promotes and maintains the production and activity of the desirable bacterial soil organisms which play their part in preparing and making available the food for pasture and fodder plants.

5. It encourages leguminous plants in their ability to draw nitrogen from the air, by promoting the growth of the special species of bacteria which form nodules on the roots of these plants. All Clovers and other leguminous plants, established on soils where a deficiency of lime exists, have few or no nodules on their roots and a corresponding inability to draw nitrogen from the air.—Tasmanian Government Extension Service.

FROZEN FOOD PACK STUDIED.

PRINCIPAL ASPECTS of the "quick frozen" or "frosted" foods industry have been surveyed in a publication prepared by the foodstuffs division of the Federal Bureau of Foreign and Domestic Commerce.

The survey presents a brief history of the rise of the industry, but deals principally with the methods of preparing and packing, storage and transportation, and trade statistics on production since 1936.

Statistics from U.S.A. trade sources show that 47 companies reported an output of 169,209,000 pounds of quick-frozen foods in 1936, while in 1937, 62 companies reported an output of 273,407,766 pounds. Trade estimates for 1938 place probable production around 480,000,000 pounds.

The survey points out that researchers have estimated that waste elimination ranges from 33 to 66 per cent. in frozen vegetables and from 15 to 80 per cent. in meats and sea foods. Research has also shown that vitamin retention and nutritional value are satisfactory and that although frozen foods do deteriorate quickly when thawed, bacteria are effectively checked while the food is frozen.

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News of the Month

APPLE AND PEAR ORGANISATION ACT.

THE AUSTRALIAN APPLE and Pear industry will now set about completing its method of organisation in view of the fact that the Apple and Pear Organisation Act is now on the Statute Book.

Plans are in hand in the several States for submitting the panels of names to the Minister for Commerce from which the first Board will be elected.

This Board will have responsibilities outweighing the others of a similar character which are established in allied or other primary industries. In the first place the product is a highly perishable one, and secondly Apples and Pears for export are grown in all of the six Australian States under widely varying conditions.

It is certain that the need exists for the established Apple and Pear Export Organisations now operating in the several States to be kept in existence for thus only can the industry give full expression to its requirements. Similarly, the Apple and Pear Council could continue to function on its present helpful and constructive lines. Thus will all the States unitedly express their views, and give the Export Control Board the needed lead by which best service can be rendered. Further, it will be observed that the Apple and Pear Council has given a very effective lead in the direction of better organisation for marketing in Australia, as both export and interstate marketing are closely related.

It is of interest in this connection to note that producers of dried fruits operate in this way through the Australain Dried Fruits Association. Despite the fact that the Export Control Board has been operating for a number of years, the A.D.F.A. holds its regional and annual conferences when problems are hammered out.

The new control Board commences with a flying start, especially as its operations commence with the administration of the 1940 crop, and the balance of the present season can be devoted to making the needed adjustments for future activities.

The Anglo-American Trade Treaty.

DETAILS of the long expected American Trade Treaty are published in this issue, together with comments by leaders of the industry. Appreciation is generally expressed to the Government Departments and all who assisted in the negotiations, it appears that as regards Apples at least there will be the need for the setting up of the needed machinery to safeguard the position arising out of the change in duty rates just prior to the opening of the Australian-N.Z. season. It is noted that the Minister for Commerce states the U.S.A. Government will be in touch with their Apple exporters to observe the spirit of the Agreement, with special reference, of course, to preventing the piling up of U.S.A. Apple stocks in England at the lower duty just before Southern Hemisphere Apples arrive. This note was sounded by Mr. Everard Ross, the London representative of the Apple and Pear Council. Doubtless the British buying trade will be of assistance in this connection in negotiating their purchases so that regulated supplies will arrive to keep the markets healthy.

Fruit Census Needed.

The 1938 report of the Fruit Industry Sugar Concession Committee is a valuable document, traversing as it does the various phases of fruit production and canning in relation to Peaches, Pears and Apricots, Pineapples and berry fruits. A warning is issued against heavy plantings which would bring an unwanted rush of fruit forward. This report is dealt with at some length in the "Fruit World Annual," which is now in course of preparation.

One aspect is stressed just here, viz., the urgent need expressed by the Chairman of the Committee (Mr. A. R. Townsend) for a fruit census. The present official statistics are deemed to be unreliable. It is known that the method of collecting statistics in several of the States leaves much to be desired. The remarks by Mr. Townsend are fully justified. In fact, the question is asked, "How can important decisions regarding crop movements be made without accurate knowledge of the statistical position?"

The State authorities would be performing services of great value in investigating this matter and in providing the needed remedy.

PERSONAL.

Mr. Keighley M. Ward, M.Agr.Sc., Horticultural Research Officer of the Queensland Department of Agriculture is visiting Victoria on a vacation around Christmas time.

It is stated that Mr. A. G. Strickland (Chief Horticultural Instructor in South Australia) will probably be sent to England about next April to obtain complete knowledge of the problems affecting the carriage and marketing of the fruit overseas for growers, packers and shippers of South Australia. This is a result of a request made by the Commonwealth Government, which has offered to pay half the cost entailed.

PERSONAL.

Mr. J. R. Abel, a member of the Tasmanian State Fruit Board, visited the mainland during November. He reports that the Tasmanian Apple crop appears to be equal to that of last year. Mr. Abel is observant of the methods for educational publicity for increasing the sale of Apples.

Mr. K. Weeding, manager, S. J. Perry & Co., fruit exporters, Melbourne, has just returned from a visit to U.S.A. and Canada.

Mr. Weeding observed the packing and marketing operations of U.S.A. and Canadians fruits, particularly Apples and Pears. He has addressed meetings of growers in various parts of Victoria at the same time showing very interesting moving picture films. Mr. Weeding is impressed with the need for central packing houses in convenient places in Victoria to put up the uniformly high quality pack now demanded overseas.

Mr. Arthur Perry, S. J. Perry & Co., Shepparton, Vic., accompanied Mr. Weeding on his last visit abroad, and was greatly impressed with the magnitude of the fruit industry of U.S.A. Mr. Perry amassed much helpful information which is being placed at the service of growers.

Mr. L. S. Taylor, a member of the Tasmanian State Fruit Board, arrived in London on November 2. He is looking into many phases of the fruit industry and hopes to enquire into aspects of Apple and Pear publicity in U.K. Mr. Taylor arrives back in Australia the last week in January, 1939.

Mr. W. Young, President Northern Victoria Fruitgrowers' Association, while expressing appreciation for the retention of the present British preferences of 15 per cent. ad val. on canned Peaches, Pears and Apricots, expresses the view that the ultimate objective is a duty of 7/6 per cwt. on a weight basis.

Mr. T. E. Butler, fruit exporter, of 486 Collins-street, Melbourne, recently returned from a visit abroad. It is pleasing to observe that Mr. Butler's health has greatly improved.

VISITOR FROM ENGLAND.

Mr. H. N. Leman, of Leman & Candia Ltd., fruit brokers, London, visited Australia during November and December. This was Mr. Leman's first visit to this country and he is very favorably impressed with the general conditions here, and particularly with the business efficiency of the firms with which he came into contact. He states the personal contacts made important and pleasing.

Mr. Leman spent some time in N.S.W., Victoria, and Tasmania. He noted that conditions favored a very good Apple crop in the Island State. As a result of his visit Mr. Leman states his firm will be handling more Australian fruit than formerly.

Mr. Leman's visit was a "flying" one in more ways than one. He left London on November 3, on the flying boat "Calpurnia"; the journey took 10 days. After spending sufficient time in three of the Australian States to transact his business, Mr. Leman leaves on December 7 on his journey home by air, and will be in London again on December 17.

News in Brief

The transhipment of Tasmanian fruit to the mainland for export is condemned by the British trade, states the Commonwealth Fruit Officer in London.

The programme of ships for lifting the Australian fruit crops last season was highly satisfactory, as evenly spaced arrivals prevented gluts and materially assisted market stability.

Valuable work in the improvement of Lettuce varieties is being performed by the Plant Breeding Branch of the N.S.W. Department of Agriculture.

There was a record production of 90,000 dried vine fruits in Australia this season; 75,000 tons were exported, leaving 15,000 tons for Australian requirements.

Although improvements are steadily being made in the Australian export Apple pack, Dr. T. H. Harrison states attention is still needed to more uniform color grading, picking for correct maturity, more freedom from blemishes and size grading.

The Commonwealth Dried Fruits Export Control Board issues a serious warning against any increased production of dried fruits in Australia unless and until new markets are found.

Growers, shippers, and case makers will be interested in the comments, published in this issue, by Dr. T. H. Harrison, Commonwealth Fruit Officer, London, on the subject of cases for the export of Apples and Pears, i.e., types of cases, seasoning, etc. One trouble with the standard hardwood case was the thick lid.

The British fruit trade directs attention to the need for the marketing of varieties in their correct periods. Overlapping of varieties should be prevented. Cleos and Grannies are wanted green, not yellow.

Regarding Apple and Pear varieties in England, an authority writes: "It cannot be too strongly stressed that the market is yearly becoming more critical and more selective, both as to varieties and sizes.

A plea for more fruit in "pure fruit drinks" was made in the Queensland Parliament recently, and at the same time the contents of some synthetic drinks were given, including chloroform and certain acids. Those engaged in the preparation of genuine pure fruit drinks will welcome all the publicity possible regarding the contents of the synthetic article. See our "Queensland Notes" in this issue.

Chlorosis is stated by our Murray River correspondent to be not a disease, but appears to be brought about by a soil condition. The use of sulphate of iron and other remedial measures are discussed in his article.

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News in Brief

The commercial crop of Apples in U.S.A. this season is estimated at 77,155,000 bushels, as compared with 115,501,000 bushels (commercial crop) in 1937. The total crop is, of course, much higher.

The Californian Cling Peach crop this season is officially estimated at 323,000 tons as compared with 370,000 tons in 1937.

It is estimated that the Sultana crop from the Mid-Murray area will be at least 80 per cent. of last year's crop on the present showing.

The taking of evidence before the N.S.W. Fruit Industry Commissioner, Mr. M. Tulloch, having ceased, addresses were given during November by various representative people, setting forth the lines on which it was hoped the Commissioner would make his findings.

Stating that the Cucumber was a vegetable, not a fruit, the Sydney City Council recently refused an application from the Committee of Direction of Fruit Marketing for the sale of Cucumbers from city fruit barrows. The request from the Committee of Direction was based on the fact that sales by shops were not sufficient to keep abreast of the supplies coming forward.

Victorian vegetable growers are endeavouring to stop Sunday labor (for Monday market). It's strange that men (and women) will work these unnecessarily long hours to produce goods they frequently cannot sell, while employees are seeking 44 hours or 40 hours a week—and no work on Saturday (much less Sunday). It's a queer world.

Owing to extensions to the Leeton Cannery, a very much larger output of canned fruit is expected this season—with the possible exception of Pears.

Granny Smith and McIntosh Red Apples will be light this season on the M.I.A. Jonathan and Cleo. have set fair crops. Pears are generally good.

The Pear crop around the Renmark district is patchy—a result of Black Spot last season.

Codling Moth and Williams Pears

SUMMARY OF INVESTIGATIONS IN THE GOULBURN VALLEY, VIC.

THE following is a summary of codling moth investigations carried out under the auspices of the Victorian Department of Agriculture as given in the "Journal of Agriculture" (Vic.) by Mr. L. Miller, B.Ag.Sc., Assistant Entomologist. The report is of the 1937-38 season's investigations which were carried out on the property of Messrs. Turnbull Bros., Ardmona, Vic.

Summary.

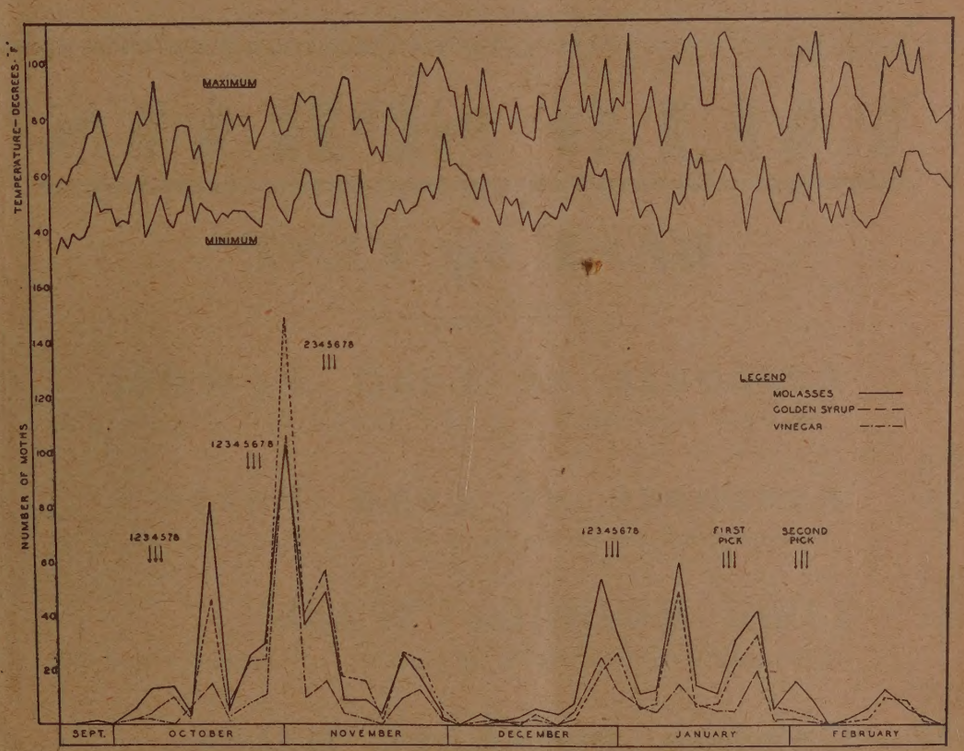
The codling moth (Cydia pomonella L.) was in evidence in the Goulburn Valley during the season 1937-38, attacking Pears. On the experimental block at Ardmona the infestation ranged from 3.83 per cent. to a maximum of 13.9 per cent., according to the programme under consideration.

The Spring of the 1937-38 season commenced earlier than that of the previous season. The Williams Pear trees at Ardmona were in blossom approximately a fortnight earlier in the 1937-38 season than in the previous year. Similarly the emergence of the Spring brood of the codling moth commenced approximately ten to fourteen days earlier.

In the laboratory at Mooroopna, life history studies revealed that, during the season, there were three broods of moths producing viable eggs — namely, the Spring, first, and second-brood moths. A very small number of third-brood moths emerged in the laboratory late in the season, but did not oviposit. Of the larvae of the first brood 5.56 per cent. overwintered, of the second brood 22.22 per cent., and of the third brood 88.31 per cent.

In the field there were three broods of moths during the season 1937-38. Moths of the Spring brood were trapped in the lures from September 27, 1937, until November 29, 1937, with a peak period on November 1, 1937. The first moths of the first brood were trapped on December 6, 1937. This brood showed several peaks of activity, the main one being on January 11, 1938. Second-brood moths began to be trapped at the end of January—the actual date of appearance of this brood in the lures not being available, owing to overlapping of the two broods. There was a small peak for this brood on February 17, 1938. Tests with different attractant solutions in lures revealed that both molasses and golden syrup were more attractive to Codling Moth than vinegar.

In the spraying experiments in the field, eight different spray programmes were used, the minimum codling moth infestation of 3.83 per cent. being obtained with a spray programme consisting of two calyx and two cover sprays of arsenate of lead paste 5 lb., plus Summer white oil 1 gallon to 80 gallons of water. This programme gave a control of codling moth that was significantly superior



Graph showing catches of moths in each of the three lure solutions of 10% vinegar, golden syrup, and molasses —Ardmona, 1937-38. The maximum and minimum temperatures are shown also.
[Illus. courtesy Victorian Journal of Agriculture]

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Extract from "BETTER FRUIT," March, 1937, by Dr. R. L. Webster, Entomologist, State College of Washington, Pullman: CODLIN MOTH COVER SPRAYS—"Ever since the imposition of an arsenic tolerance in 1926, and even before that time, investigators have been testing other materials which may be used in place of lead arsenate. Following all these intensive and extensive investigations lead arsenate appears to have certain inherent qualities which place this material foremost as an insecticide for codlin moth control."

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The Right Material for Plant Disease Prevention and Control

GUARANTEED 99% PURITY

GRADES—Mixed Crystals, Fines, Granulated (Snow), Packed in Suitable Containers for Growers' Requirements.

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A chemical band on one of the experimental trees.

"VALLO SPRAYS"

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Arsenate of Lead Powder
The Finest Procurable. Package, 56 lb., 28 lb., and 4 lb.

Arsenate of Lead Paste
Arsenical Content of 99.60 per cent. Purity. Package, 1 cwt., 28 lb.

Lime Sulphur Wash
Minimum Polysulphide Sulphur, 20 per cent.. Package, 44 Gal., 4 Gal.

Copper Sulphate Neige
98/99 per cent. Package, 1 cwt. and 56 lb.

Nicotine Sulphate 40%
Guaranteed 40 per cent. Package, 1 Gal., ½ Gal.

Prepared White Oil
89 per cent. Mineral Oil. Package, 44 Gal., 4 Gal.

Colloidal Sulphur
50 per cent. Sulphur, Weight for Weight. Package, Cases, 8 x 5 lb. Jars.

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to one consisting of the same number of sprays of arsenate of lead 5 lb. to 80 gallons of water.

It was found that a reduction of the quantity of arsenate of lead paste from the customary 5 lb. to 3 lb., in 80 gallons of water, gave an inferior control when applied as a schedule of two calyx and two cover sprays. An increase in the amount of arsenate of lead paste to 8 lb. in 80 gallons of water in a similar schedule, did not increase the degree of control above that obtained with the usual strength of 5 lb. to 80 gallons of water.

The use of a single delayed calyx application gave an inferior control of codling moth as compared with that from the normal programme with two calyx applications.

Field tests conducted with different types of bandage revealed that the normal bag or hessian bandage trapped a larger number of larvae than chemically treated corrugated bandages. Of the larvae trapped in the chemically treated bandages 97.5 per cent. were dead.

It was found that the treated bandages trapped a larger number of larvae from the first brood than from the succeeding broods.

Of the eight programmes used in the field spraying experiments, one only gave an arsenic residue on the fruit at either of the harvestings below the limit prescribed by law. This programme consisted of two calyx sprays of arsenate of lead paste 5 lb. to 80 gallons of water and two cover sprays of Summer white oil, 1 gallon to 60 gallons of water.

Two parasites of the codling moth were observed during the course of the investigation.

CODLING MOTH CONTROL.

THE TIMES OF APPLICATION of lead arsenate or ovicidal while oil sprays for the control of the codling moth must be determined by the aid of lures in order to be most effective and to reduce the number of sprays to a reasonable minimum.

Apples.—Apply arsenate of lead 5 lbs. of paste or 2½ lbs. of powder in 80 gallons of water, or Summer white oil 1 gallon in 60 gallons of water.

Pears.—Apply arsenate of lead 5 lbs. of paste or 2½ lbs. of powder in 80 gallons of water.

White oil cover sprays can be used as effectively as on Apples, but clean-skinned varieties sprayed late in the season are likely to "color up." This factor should be considered where export Pears are concerned.

BIG APPLE CROP IN W.A.

Over 1,000,000 Cases for Export.

A big Apple crop is developing in Western Australia, and conditions are favorable for the full development of what appears to be a record crop of high quality fruit.

W.A. will have over 1,000,000 bushels of Apples available for export to the United Kingdom, the Continent and the Near East.

CODLING MOTH CONTROL.

Experiments With "Inverted" Spray Mixtures in U.S.A.

AN ACCOUNT of the developments and use of the so-called "inverted" spray mixtures, especially Summer petroleum oil-lead arsenate washes for codling moth control is dealt with by Dr. J. Marshall, Entomologist, Washington State Agricultural Experiment Station, in Bulletin No. 350, a summary of which is given in the Horticultural Abstracts of the Imperial Bureau of Horticulture.

A brief outline is given by the author of the many attempts that have been made, particularly by the addition of spray auxiliaries, **to increase the efficiency of lead arsenate sprays.**

While many of these modifications have been more or less beneficial, none has resulted in such marked improvement as has the introduction of "inverted" spray mixtures. These latter are defined as spray mixture in which a suspended solid initially wetted by water becomes wetted by oil during the mixing or application of the wash.

To promote such behaviour it is necessary to incorporate some substance to promote the oil-wetting of the solid. Oleic acid, various soaps and diglycol oleate function thus.

It is suggested that in many cases the phenomenon may be due to the formation of soil-soluble or oil-wettable divalent and trivalent soaps.

The possible mechanism of the inversion is discussed at length. The outstanding characteristics of these sprays are that the deposit is laid down in an even film and the amount of its increases with the length of time during which the mixture is applied, i.e., "build-up" of the deposit occurs. This results in greatly enhanced larvicidal efficiency but the ovicidal value of the oil is somewhat reduced, possibly because of its partial absorption by the solid.

The influence of impurities and of added substances, particularly zinc sulphate, upon the stability of the oil emulsion and upon the capacity for inversion of the spray mixture is discussed. Low concentrations of zinc sulphate promote oil-flocculation of lead arsenate whereas higher concentrations stabilise the emulsion.

The mechanical treatment of the spray fluid also has an important bearing on its stability. Deposits of lead arsenate from inverted mixtures show a high degree of resistance to weathering and under arid conditions practically no loss occurs on this account.

In the Wenatchee Valley, U.S.A., no serious damage resulted from the application in May and June of four inverted lead arsenate-Summer petroleum oil washes. Residue removal was complicated but not rendered unduly difficult.

The author concludes that where codling moth infestation is very high this type of spray fluid is undoubtedly more efficient and at the same time cheaper than normal washes.

Mention is also made of similar sprays incorporating calcium arsenate or zinc arsenite.

The Control of Mussel Scale

SPRING AND SUMMER SPRAYINGS

Tests at Mount Barker, W.A.

By H. R. Powell, B.Sc. (Agric.), Horticultural Adviser.
W.A. Dept. of Agriculture.

MUSSEL SCALE (Lepidosaphes ulmi L.), is a common pest of the Apple, although it is not necessarily confined to this host. In most orchards its presence can be detected on **Yates** and **Jonathans**—varieties to which the scale shows a somewhat pronounced partiality. Infestation is not always slight; in fact, it can be so severe that affected trees have their wood literally plastered with scales.

There is no doubt that this scale is spreading amongst the orchards in the southern portion of the State, despite parasitism and the Winter use of red spraying oils.

There appears to be only one generation of Mussel Scale each year, the young or larvae hatching from eggs retained under the old scales of the females. These old scales are very tenacious and remain firmly attached to the bark for years.

The

most vulnerable period

in the life cycle of all scale insects is that extending from the hatching of the eggs, or from the birth of living larvae, as with some scales, viz., San Jose, to the period before the formation of the hard shield-like covering, when their bodies are devoid of protection.

To determine the time of hatching, weekly visits were made to Mr. E. Greenslade's orchard (Mount Barker, W.A.) from the beginning of October, 1937, to December, and it was not until the 10th of the latter month that maximum emergence was noticed. The newly hatched scales were present in large numbers, taking up permanent positions on practically every available portion of twig, branch and stem.

Control—(a) As the customary use of red spraying oil had failed to check the scale on Mr. Greenslade's property, it was decided that a lime-sulphur spray should be substituted. This was applied on September 20 at a strength of 1:12, care being taken that the trees were well covered; one Yates heavily infested was left unsprayed as a control.

For a considerable time the sprayed trees appeared to be unaffected by the spray. The old scales, when scraped away with a knife, contained eggs that appeared to be in fresh viable condition—in every way comparable to those found on the unsprayed tree. **From the beginning of December, however, young scales began to appear on the unsprayed tree, but on the sprayed trees, even well into February, no live scales could be found.**

Thus, it can be stated that lime-sulphur at a strength of 1:12, applied in the third week of September, exerts a complete control over Mussel Scale without damage to the tree.

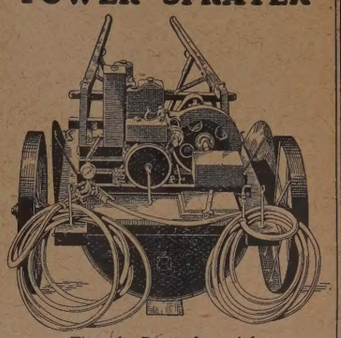
Control—(b) Having determined the time of emergence of the young scales it appeared that the use of a white oil spray at this period would prove satisfactory.

Accordingly, the unsprayed tree on Mr. Greenslade's orchard was sprayed with white oil at a strength of 1:40 on December 10, and on Mr. Scott's orchard (Mount Barker) two Yates very heavily infested with Mussel Scale were sprayed a week later with white oil at strengths of 1:40 and 1:60 respectively. Care was taken that every portion of the trees was covered by the spray.

On subsequent visits it was impossible to locate any live scales on the sprayed trees, thus showing that the control of Mussel Scale by white spraying oil at the strengths used was very efficient.

It is quite possible that weaker concentrations of white oil, combined with nicotine sulphate, will prove effective in exerting a control, not only for Mussel Scale, but for Red Spider and Bryobia Mite as well, if used during mid-December. Next season steps will be taken to test this.

— THE —
BAVE-U
POWER SPRAYER



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UNDERSLUNG MODEL
Russell & Co.
Box Hill, E.11, Victoria

Conclusions.

1. Mussel Scale, if left unchecked, has a serious devitalising effect upon infested fruit trees.

2. **Maximum emergence of young scales occurred during the middle of December.**

3. Effective control consisted in spraying with

(a) Lime Sulphur 1:12 during the third week of September.

(b) White oil 1:60 during the middle of December.

Warning.

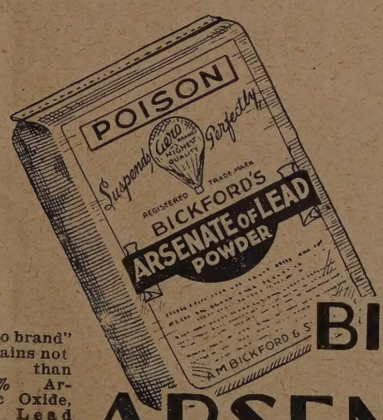
1. Lime sulphur should not be used at the strength stated if the spurs are bursting, otherwise serious damage will result.

2. As hot weather may be expected during December it is necessary that cool days be chosen for the application of white spraying oil.—"W.A. Jour. Agric."

SOUTHERN VICTORIA PEAR PACKING CO.

Southern Victoria Pear Packing Co. Ltd. earned net profit for the year ended September 30 of £1,863. Sundry creditors appear in the balance sheet at £2,003, cash on hand and at bank at £2,798, sundry debtors £2,625, stock £3,000; buildings, machinery, etc., £5,859.

Destroy Codlin Moth!



Wipe out the Codlin Moth pest quickly and surely with "Aero" brand Arsenate of Lead. Its extra fineness and lightness of texture, its high covering and killing power, the ease with which it mixes and remains in suspension in the spray tank, are the reasons advanced by orchardists why it is the most effective Arsenate of Lead they have ever used. "Aero" brand costs no more than inferior Arsenates. Get full particulars from the manufacturers or from your local distributor.

"Aero brand" contains not less than 31.5% Arsenic Oxide, 60% Lead Oxide, not more than .25% Water Soluble Arsenic.

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"Aero" BRAND
ARSENATE OF LEAD
By every Test Bickford's "AERO" Brand is Best

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WESTERN AUSTRALIA: Felton Grimwade & Bickford Ltd., 397 Murray Street, Perth.

NEW SOUTH WALES: Buzacott & Co. Ltd., 7-11 Market Street, Sydney.

QUEENSLAND: Buzacott (Queensland) Ltd., 443 Adelaide Street, Brisbane.

TASMANIA (Northern Districts): Gardner & McKenzie Pty. Ltd., 64 Cameron Street, Launceston.

TASMANIA (Southern Districts): Port Huon Fruitgrowers Co-op. Association Ltd., Davey Street, Hobart.

Leaf Rust of Stone Fruit

May Develop into a Serious Disease in Tasmania.

CONCERN IS BEING felt in the Tamar Valley (Tasmania) and districts around Hobart for the growing seriousness of the spreading of Leaf Rust of stone fruits. The seriousness of the disease lies in the fact that leaf infection causes premature leaf fall and may be so great as to bring about complete defoliation.

Observations over the past two seasons point to the possibility of the disease becoming a serious factor, not only in Peach and Nectarine, but also in Apricot and Plum areas. The State Plant Pathologist, Mr. J. O. Henrick, states that the fungus infects leaves, shoots and fruit of the **Peach** and **Nectarine**, the leaves and fruit of the **Apricot**, and the leaves of the **Plum**. As a result of defoliation the tree becomes weakened and susceptible to attacks of other fungi.

A study of the life history reveals the infection possibilities in Spring, Summer and Autumn.

With Peaches and Nectarines depressed circular spots are formed on the fruit, which later exhibits a reddish border, and small cracks appear on twigs. Both are sources of infection.

Control Measures.

The following programme of hygiene and spraying will be found to give good results:—

(a) After the fruit has been picked, spray with lime sulphur, 1 in 60.

(b) In late Autumn, in Winter or after pruning, bury all fallen leaves, etc., by ploughing or by hoeing where the use of the plough is not practicable.

(c) Burn all prunings of Peaches and Nectarines, as they may be carrying cankered areas.

(d) At late dormant period or first sign of bud movement spray with lime sulphur 1 in 10 or Bordeaux Mixture 6:4:40. (This will also be the first spraying for Brown Rot).

(e) From early Spring onwards keep a close watch on any Anemones in the garden, and at first sign of yellowing, dwarfing or twisting remove the whole plant and burn.

SEARCH FOR OIL.

Papua and New Guinea to be Explored.

With a full recognition of the importance of discovering oil in commercial quantities in Australia or its territories, and of the great advantage which large-scale production would provide, both from a national and defence point of view, and as well as to the discoverers of petroleum, Australasian Petroleum Co. Pty. Ltd. (the shareholders of which are Vacuum Oil Company Pty. Ltd., D'Arcy Exploration Co. Ltd., and Nominated Holdings Pty. Ltd., representing Oil Search Ltd.) has commenced a vigorous search in Papua and New Guinea. The new organisation will devote its attention to the areas taken over from Oil Search Limited and Oriomo Oil Ltd.

Mr. Hugh Hamilton (Chairman of the Australasian Petroleum Co. Pty. Ltd.) announced that the company had entered into a contract for an aerial survey, which will cover approximately 10,000 square miles.

As the cost of this aerial survey will be not less than £90,000, it will be realised that the Company is determined to make a thorough investigation without unnecesary delay, and to use its large financial and technical resources to that end.

The company's white staff in Papua and New Guinea, including geologists, palaeontologists, surveyors, aerial survey experts, field assistants, clerical and other employees, numbers 51.

NEW SOUTH WALES.

Batlow: There was an attendance of over 200 at a function convened by the Batlow Rural Producers' Co-operative Co. Ltd. Representatives attended from various parts of N.S.W., including Young, Leeton, Griffith, and other places. Mr. A. E. Herring presided.

There was valuable interchange of ideas and topics affecting the welfare of the fruit industry. The Hon. A. G. Cameron spoke on the Apple and Pear Organisation Act. With regard to improvements in local marketing the Minister stated the Government as requested by the industry, was prepared to provide the legal machinery by which a small levy on Apples and Pears marketed in Australia could be collected to provide funds for publicity and improved marketing.

Mr. J. B. Mills, President of the Apple and Pear Council gave particulars of the successful Apple and Pear publicity campaign. Included in the audience were Messrs. E. McCarthy (Department of Commerce), J. M. Ward (Superintendent of Horticulture, Vic.), and G. W. Brown (Vic.).

LEETON CANNERY.

Large Cool Store and Much Added Equipment.

Operations at the Leeton Co-operative Cannery will commence about December 12 with Apricots.

Large additions have been made, including a modern cool store to hold 500 tons of fruit.

The floor space for extra can making has been increased to 9,000 sq. feet.

Storage for about 1,250,000 reserve cans has been set aside in the new two-story section, and this addition will make possible the mechanical supply of empty cans right through from the can shop to the centre of the canning department, where about 170 girl operatives need huge supplies of cans throughout the day.

This enlarged cannery claims to be one of the best equipped in the British Empire. The record is held for processing 320,000 cans of fruit in one working day.

About 800 employees will be engaged this season.

HENRY JONES CO-OPERATIVE.

Profit £137,747 :: Dividend 10%.

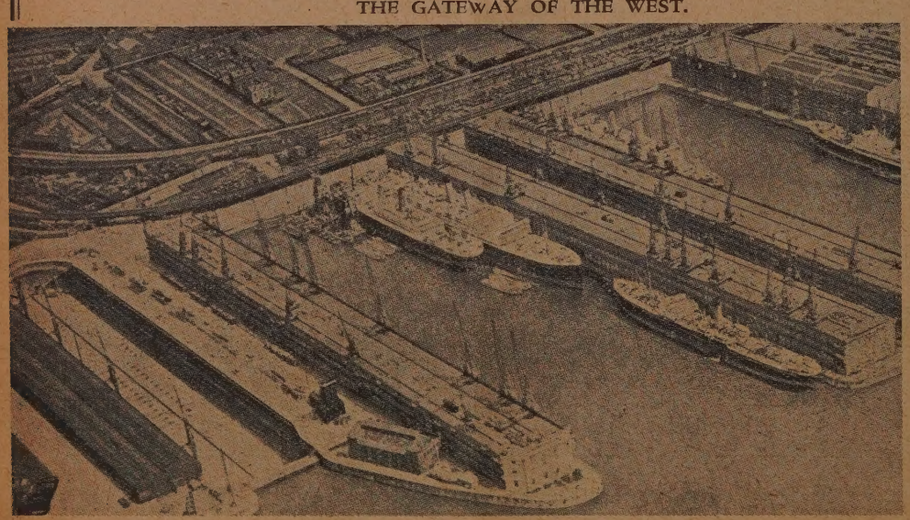
The volume of trade in Henry Jones Co-operative Ltd. in the year ended October 31, 1938, was the largest in their history. There are many associated companies. The profit was £137,747, being £7,517 less than the previous year. The dividend remains unchanged at 10 per cent.

The directors report that the new factory in Johannesburg, S. Africa, was manufacturing in accordance with programme.

They were now successfully operating seven factories in N.Z. and S. Africa. Appreciation was expressed for the able and loyal staffs.

THE PORT of LIVERPOOL

THE GATEWAY OF THE WEST.



THE GLADSTONE DOCKS.

Very large quantities of fresh and dried Fruits are landed at Liverpool. Auctions of Fresh Fruit take place three times per week, and are attended by buyers from all the Midland centres, the North of England, Glasgow and Ireland.

Rail and road facilities for rapid distribution of purchases are unsurpassed.

H. W. RICHARDS, Representative for the Mersey Docks and Harbour Board.
31 MACQUARIE PLACE, SYDNEY. Phone No.: B 5200.

FACTORS AFFECTING THE SETTING OF FRUITS

(By P. H. Thomas, Chief Horticulturist, Tasmanian Department of Agriculture.)

AT this season enquiries are frequently received from orchardists concerning the failure of certain of their fruit varieties to set and bear fruit. Information is sought as to the cause of this unsatisfactory condition and suggestions for remedial treatment are requested.

The bearing and setting of fruits is capable of being influenced by a number of different factors, some of them extremely complex. Some of the conditions responsible for poor yields can be avoided or influenced by treatment or management, others are beyond human control. In this article consideration is given to factors which commonly result in sterility or partial cropping.

The main factors affecting fruit setting may be roughly classified into five main categories, namely, meteorological, pathological, nutritional, sexual, and agencies affecting pollination.

Meteorological Causes

WEATHER CONDITIONS experienced at the time of blossoming are perhaps the most important factor affecting the setting of fruits.

When a period of calm, warm, sunny weather synchronises with the blossoming of any particular fruit, a good set is assured. Rain with cold wind is prejudicial to effective pollination, limiting the activity of bees and other insects, whilst excessive humidity will prevent pollen from ripening and reaching the fine condition necessary for its dissemination. Frosts are also responsible to a large extent for crop failure, especially amongst the early blossoming drupe fruits such as Cherries, Plums and Apricots. Frost injury may be prevented by the artificial heating of areas by means of orchard burners with which the atmospheric temperature is kept above the danger point, but no economic treatment can be recommended to combat the effects of cold, wet, windy weather.

Pathological Causes

FUNGUS AND INSECT PESTS are often directly or indirectly responsible for serious injury to flowers during the blossoming period. During recent years in Tasmania this has been particularly noticeable in our Pear varieties, many of which have been affected by the Black Spot fungus at this stage.

The fungus attacks the stalk, sepals and portions of the flower, thereby inhibiting development and generally causing injury or death of buds and flowers. Powdery Mildew is also responsible for the loss of numerous blossom buds in heavily infected orchards.

The brown rot fungus is often very troublesome during the blossoming period of Apricot and other stone fruits, although it is seldom found on Apples and Pears. In each instance the recommended preventive fungicidal sprays applied at the correct period should protect the blossoms from infection. Tasmanian orchardists are indeed fortunate in not having to combat the disease known as Fire-blight that is prevalent in U.S.A. The bacteria of this is spread very largely by the honey bee and other insects during the blossoming period, making the problem of control exceedingly difficult.

Amongst the insect pests thrips must be considered the most important. Here again Tasmanian growers have not suffered to the same extent as their competitors. This insect attacks the floral organs, destroying the pistil and stamens. In Western Australia and Victoria thrips have been responsible for almost the entire destruction of fruit crops in some districts. The species causing the injury are found in this State, but fortunately climatic conditions are generally unfavorable to its operations.

Other insect pests such as Pear Mite, Aphids, Red Spider and Tortix Caterpillars cause a certain amount of injury during fruit setting, but none of these have yet proved to be of economic importance in this respect.

Nutritional Causes

EXPERIMENTS have demonstrated that in many cases fruit setting is materially affected by the lack or over-supply of plant foods. The age and condition of the tree is most important, and deserves careful consideration. Varieties differ considerably in their growth and cropping habits. For example, **Democrat** has a very sparse foliage and prolonged period of fruit development; **Dunns, French Crab** and **London Pippin** are biennial croppers; the main commercial varieties such as **Sturmer, Cleopatra** and **Jonathan** crop regularly.

The formation of healthy fruit buds is largely dependent upon a proper balance being maintained between the carbohydrate and nitrogen content of the tree, and if this balance is upset production is affected.

Any treatment such as the excessive use of nitrogenous fertilisers or severe pruning, both of which cause undue stimulation and increased vegetative growth, may affect the development of fruit buds, whilst over-cropping and lack of the requisite plant food will often produce unhealthy blossoming and eventually result in biennial cropping.

Pruning is closely related to nutrition and in many cases the producer is meticulously adopting methods of pruning which are opposed to the manurial programme. Thus we often see vigorous trees severely pruned and receiving heavy applications of nitrogenous fertilisers. The resulting crops are generally sparse and the fruit is oversized. In other instances light pruning may produce heavy crops, and unless thinning is carried out in conjunction with heavy fertiliser applications cropping in alternate years may result.

Unsatisfactory pruning methods give rise to a surprising number of partial crop failures. This is particularly evident in some species of Apple, Peaches, and Pears where the pruning has been conducted more on the lines of an annual grooming than an aid to fruit bud formation, and a large proportion of the bearing wood is regularly shorn off to improve the tree's general appearance.

Inadequate **drainage** is another cause which frequently affects the setting of fruit crops.

Excessive rains occurring at or previous to blossoming may saturate the soil to the extent that the newly developed capillary feeding roots commence to die off or decay. This results in a partial cessation of growth during a critical period. In some cases fruit setting only is affected, whilst if the period of growth cessation is prolonged a sap fermentation may result which ultimately causes death or serious injury to the tree.

Sexual Causes

MOST GROWERS who have made only a cursory study of fruit setting will realise the important relationship between the fruit and the seed; in fact, the edible flesh that is produced is dependent almost entirely on seed formation.

Seed formation can only take place where pollination has occurred. The importance of effective pollination will thus be fully appreciated; and amongst the adverse causes influencing setting ineffective pollination is perhaps the most general in our pome, drupe and berry fruits. The deciduous fruits grown in Tasmania may, for the purposes of this discussion, be divided into two classes, namely, those which are self-fertile and those which require cross-fertilisation.

Varieties which are self-fertile bear perfect flowers possessing normal male and female organs, the pollen of which is functional.

Pollination in such varieties may occur as a result of natural flower development or be assisted through the agency of insects.

The value of such varieties lies in their being able to produce crops when planted in large areas and there is not the necessity to introduce other varieties for cross fertilisation.

The necessity for cross fertilisation of certain varieties is due to a number of causes; the flowers of some fruits are imperfectly formed and normal fertilisation cannot take place. This is especially evident in some varieties of Strawberries whose flowers are almost entirely pistillate or staminate. In some species the pollen produced is often sterile, which prevents either self-pollination or the fertilisation of other varieties. A peculiar phase of these species is that they are highly receptive to cross fertilisation from a compatible variety, and where this occurs produce heavy crops of fruit.

Sterility as the result of incompatibility is very prevalent amongst Apples, Pears, Plums and Cherries.

In the early stages of the development of the fruit industry, the demands of the market were not nearly so well defined as in later years, and almost any fruit of medium quality with a fairly attractive appearance would sell readily. Under such conditions the planter exercised a wide range in the choice of varieties for his orchard, incidentally providing greater chances for effective cross fertilisation in self-sterile kinds. As the industry developed the retail trade and consumers learned to know the value of different species and the planting trend became confined to these.

Under such conditions large single blocks of popular fruit species were sometimes planted, and it was at this stage that the necessity for effective cross-fertilisation became apparent if regular and profitable crops were to be produced.

The orchardist to-day generally realises the necessity for providing means of cross-fertilisation, especially in certain pome and drupe fruits, and during recent seasons many intending planters have availed themselves of the information collated by the Horticultural Division of the Department of Agriculture on this subject before setting out new areas. **A simple method of testing area in which imperfect fertilisation is suspected as the cause of unfruitfulness is to carefully select a number of trees and artificially cross-fertilise limbs on each with a variety of blossoms at approximately the same period.** This can either be performed by hand or by placing sprays of blossoms in jars of water suspended from the main limbs. By this method an indication can first be obtained regarding the compatibiilty of each of those selected with the variety.

During the ensuing season grafting or budding of the kind that has proved most effective to ensure the necessary cross-fertilisation can be undertaken. In planting large areas the general practice where two or three varieties are to be grown is to arrange the planting in alternate rows of four. This also gives facilities for harvesting, spraying, and any particular treatment.

Where large blocks of one or two varieties are necessary the general practice is to plant the pollinators at regular distances throughout the area, which will enable effective cross-fertilisation of the trees in their vicinity to take place.

Agencies Affecting Cross Pollination

CONTRARY to general belief, it has been found that wind is not an influential agent in the pollination of most deciduous fruits.

The work is mainly performed by insects, of which the bee is the most important. Honey bees work best at the higher temperatures—60 deg. to 70 deg. Fahr.—and on cold, wet days, even though the trees may be in full blossom, and in close proximity to varieties suitable for cross-fertilisation, the set of self-sterile kinds will be affected.

It will be seen that although bees are a necessary adjunct to fruit setting in every orchard, under certain conditions when weather is unfavorable they cannot be entirely relied on to effect the necessary cross-fertilisation. It is opportune at this juncture to discuss briefly the general spray programme in its relationship to fruit setting.

Every encouragement should be given to the bees to work amongst the flowers during the blossoming period.

PROTECT

Your LEMON and ORANGE Trees from Scale and Aphis—

SPRAY with

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and see an immediate improvement in health and yield.

Obtainable from all Seedsmen and Nurserymen

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Growers generally realise the importance of this and refrain from applying sprays, between the pink and petal fall stages of development, which may act as deterrents to the bees

During recent years propagators have directed research work towards evolving fruit varieties that do not require pollination in order to produce their fruits. Some notable examples of this are the Navel Orange, certain Persimmons and seedless Grapes.

At present in Apples, Pears, Apricots, Plums, Cherries and the different berry fruits, the general policy is to give preference to commercial varieties which are self-fertile.

Summary.

From a grower's standpoint the pollination problem may be summarised as follows:—

Select commercially popular varieties that may be grown in blocks without interfering with production. If this is not possible, ensure that the general layout of the orchard permits effective cross-fertilisation.

A good polleniser should possess three main qualities—the pollen must be viable, it must be compatible in cross-fertilisation with the variety it is intended to pollinate, and the two varieties should have blossoming periods that synchronise or overlap.—"Tasmanian Journal of Agriculture."

... FOR MEN ...

Many men have the impression that a Savings Bank Account is suitable only for women and children, and that it is neither convenient nor dignified enough for business men.

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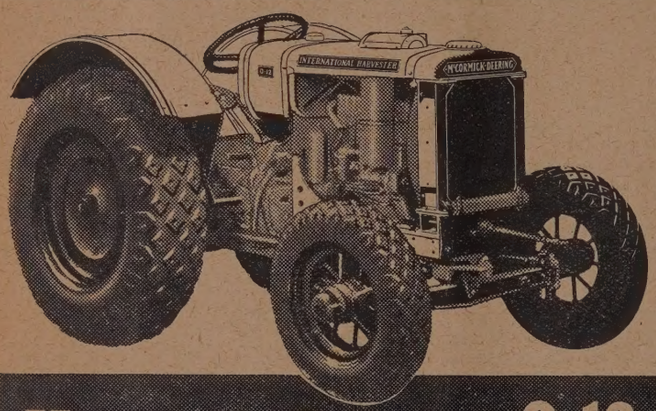

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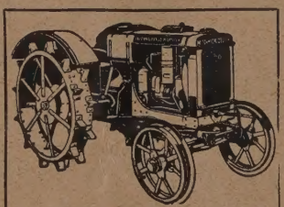

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QUEENSLAND

COMMITTEE OF DIRECTION ANSWERS CRITICS.

In a reply to a statement recently made by Mr. A. S. Huybers, managing director of Queensland Pastoral Supplies, that the two main factors in the failure of our Pineapple industry to be the success it should be were because the industry was in semi-Government hands and we did not utilise our by-products, the manager of the Committee of Direction, Brisbane, Mr. B. Flewell Smith, stated that such statements were very misleading to growers. It was a result of similar statements that plantings were rapidly increased in 1936 and 1937. Now, in 1938 production has shown a 50 per cent. increase, but neither the British nor the Canadian consumption is increasing in proportion.

Continuing, Mr. Flewell Smith said that discussions with Mr. Fairley (managing director of the Shepparton Co-operative), Mr. Evatt (Irrigation Commissioner of N.S.W.), and Messrs. Adams and Young, all representatives of growers and the Australian Canned Fruits Control Board during the recent British-Australian trade discussion, showed that there is a very limited demand indeed in the U.K. for Australian Pineapples.

Only recently 100,000 cases of Japanese Formosan canned Pineapples had been offered in the U.K. at 5/- per dozen, c.i.f. Formosan Pineapples sell in the high quality field in which Australia competes.

There is also an extensive trade with U.K., Canada, Holland, etc., in Pineapple juice. The juice is freely displayed in Melbourne, and is sold in 14 oz. tins in Brisbane.

Passionfruit Control.

The Committee of Direction of Fruit Marketing, Brisbane, has issued a direction bringing factory Passionfruit under control for two years as from November 16, 1938. All Passionfruit intended for any fruit canner, fruit preserver, jam or pulp manufacturer, juice extractor or cordial manufacturer can now be dealt with only by the Committee of Direction or its agents or servants.

HOWARD CULTIVATORS.

HOWARD AUTO CULTIVATORS LTD. show a nett profit to June 30 of £11,588. Dividend at 9 per cent., absorbs £9,427. An extensive building programme is now nearing completion, the plant has been greatly improved.

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MARKETING FACILITIES IN LONDON.

The marketing facilities for fruit in London are unsurpassed anywhere in the world. The principal markets being Covent Garden, Spitalfields, the Borough and Stratford. At Covent Garden large quantities of Australian and New Zealand fruit are sold, either by private treaty or at auction sales open to all comers.

The Spitalfields Market Extension.

Owing to increased trade, the City Corporation decided a few years ago to provide additional facilities at their market in Spitalfields. Previous to the commencement of the extensions, the market occupied an area of five acres. The scheme involved an expenditure of £2,000,000, and the new market was opened in 1927. The market, which is now one of the most modern in the world, deals with approximately 1,000,000 tons of produce per annum. It has a floor space of 10½ acres, the frontage of the warehouses and stands is over 1½ miles, and there is covered accommodation for 500 vehicles.

In 1929 the London Fruit Exchange, a part of the market organisation, was completed at a cost of about £300,000 for the sale by auction of imported fruit on samples.

The samples are brought from the adjacent London Docks by lorries, which back on to the large storage rooms of the Exchange. The samples are then taken to the showrooms and exhibited in the sections allotted to each of the selling brokers. Supplies are catalogued and the buyers, of whom there are about 1,000, inspect the samples in readiness for the auctions.

The auctions are conducted in two auction theatres, which are the largest of their kind in Great Britain. One theatre has seats for 459 persons, and the other 333, each seat being numbered and allotted to a particular buyer. A sample of each lot for sale is raised to the auction rooms by electric lift and lowered after sale.

By means of delivery notes, buyers are enabled to obtain delivery of the fruit direct from the docks to any destination throughout the country.

In the words of the Market Superintendent, "The function of the new Spitalfields is that of a great clearing house, serving through its Fruit Exchange not only the city and home counties, but the whole country."

Sales can always be depended upon in London for the best quality fruit at the highest prices.

The Port of London Authority have spent vast sums in providing the most up-to-date facilities for the handling of perishable cargoes. Fruit shipped direct to London can be delivered to the markets in a few hours after arrival in the port.

VICTORIAN ONION BOARD.

Board to Continue Though Majority Favor Dissolution.

Statutory Majority for Dissolution Fails by 0.39.

Of the 1,035 effective votes as to the fate of the Victorian Onion Board, 617 voted in favor of dissolution and 418 for continuance. A majority of 60 per cent. was needed to carry the vote for dissolution and this failed as the percentage polled for discontinuance was 59.61.

There is likely to be a serious shortage in the coming crop of Onions owing to the dry season and attacks by grubs.

NEW SOUTH WALES NEWS & NOTES

Murrumbidgee Irrigation Areas

USE OF WATER IS BEING RESTRICTED — GRANNY SMITH APPLE CROP LIGHT, PEARS GENERALLY GOOD — BIGGER OUTPUT OF CANNED FRUIT BECAUSE OF EXTENSIONS TO LEETON CANNERY — PEACH AND APRICOT CROPS FAIR TO GOOD.

(By Our Correspondent)

THE WEATHER during November has been exceptionally hot and dry, and temperatures have been recorded up to the 100 shade mark; in consequence, there has been a great deal of anxiety caused among growers owing to the possibility of the heat wave continuing, as with the restrictions imposed on the use of irrigation water to the large area holdings there is a very serious position likely to occur.

The principal topic of conversation when groups of settlers meet is the possible result of the restrictions imposed on the large area farmers, many of whom sowed additional acreages of Lucerne and pastures on their holdings, and if water is not available, a very serious loss will occur in many quarters.

The continued dry weather of the past months and lack of heavy rains in the Burrunjuck catchment area has resulted in an abnormal lowering of the water supply, and the Irrigation Commission has found it necessary to **impose severe restrictions in the use of irrigation water,** not only to large area farmers on areas adjoining the fruit districts, but have enforced the restriction on users of water right along the Murrumbidgee. Kooba Station, which has thousands of acres of land under crop and Lucerne, have been compelled to reduce their consumption of water to a minimum, and the river is at present so low that very little water is available for requirements.

The owners of fruit farms will, it is understood, have first claim on the irrigation supply, and it behoves them to use such water to the best advantage and by the thorough working up of their land after every irrigation keep it in such a state of tilth that the moisture is conserved, and the land kept free from Summer weed growth which contends heavily with the trees.

When the first intimation of the Water Conservation Commission was announced it was felt by many of the large area farmers that the restrictions imposed were too stringent, and a large and comprehensive gathering of these men was called to consider the position.

After a deputation had interviewed the Commissioners, a compromise was agreed upon, and it is understood that some part of the restricted use of the water was waived; had the original programme been adhered to one farmer stated that there would be 100,000 dead sheep on the Benerambah section before Christmas time.

The position is still very serious for those farmers who have large acreages of Lucerne and pastures recently sown and even those with established paddocks will be badly affected if the supply of irrigation water is not forthcoming.

Only heavy rains in the watershed and catchment area of the Burrinjuck reservoir will ease the position, for it is fully realised by all that the catchment has been depleted and the Winter rains have been insufficient to keep up the supply.

The Rice areas will probably have to be further restricted in the future, unless seasonable rains replenish the Reservoir. Many fine irrigated hay crops are being cut now.

The **Granny Smith** crop of Apples on these areas is exceptionally light, and various theories are being advanced for the failure of this crop to mature after a most profuse blossoming.

Sudden changes of temperature, lack of moisture in the subsoil, owing to the dry Winter, and lack of pollination from other varieties have all been advanced as reasons for the failure, but in every case there are contradicting factors to dispute any theory put forward.

While **Cleopatra, Jonathan,** and **MacIntosh Red** varieties have set fair to good crops alongside the Granny Smiths, the latter have failed, and only a sprinkling of fruits show up on even large and well worked trees.

The position of those growers who have large acreages of this variety is a very serious one, and one grower in the Leeton District, with nearly one hundred acres of Apples, the bulk of which are the Granny Smith, has only his red varieties to rely on.

Yet another grower with a few acres, only a few miles away, has a really good crop of Grannies on ten year old trees, a crop well up to the average and well formed fruit. Soil conditions and cultural practices have apparently little or no effect on the setting this year, and it is a matter for serious consideration as to what is the probable cause of this general failure.

The weather at blossoming time was variable and changeable, and with cold nights, and very few bees were noticed during the blossoming period, probably owing to this reason. Yet evidently lack of pollination is not the principal factor as in some cases a complete contradiction is shown.

Thrips have also been blamed for the failure, but as these insects were not in large quantities, and the adjoining Apples of the other varieties have not been affected, this may also be ruled out as a possible cause.

The Pear crop is generally good, both of Williams and Packhams, and there seems room for further plantings of Pears on these areas, as the quantity grown is far below the requirements of the Leeton Cannery.

With the **extension of the Leeton Cannery** and the large additions now being made, there will probably be a **very much larger output of fruit** of all varieties, and there seems to be a need for further supplies of Pears (Williams) and good varieties of Plums.

The Jefferson, a Plum which does exceptionally well on these areas and is a good canning or bottling Plum, might perhaps be given a trial. The tree is a strong grower and a regular bearer if the few which are growing in odd orchards are any criterion to go by. The fruit is large, firm and with a fine yellow color, making a good appearance fruit when bottled.

However, any grower who decides to plant fresh stock in order to supply the wants of the Cannery are best advised to consult the manager, and learn from him what are the varieties required, the best varieties for canning, and the likely quantity to be required, for no one would be bold enough to advise the further plantings of any type of fruit unless they received a definite contract at a fixed price for their fruit when it was available. Moreover, a contract such as has been offered in the past by some firms, i.e., a 10-year contract, should date from the time the tree is of commercial bearing age, and not from the time of the planting. Some growers have found this out to their cost, as in reality it has only been a four-year contract, after which, unless there is a renewal at a favorable figure, the grower has to accept the best price offered.

The Prunes of the D'Agen variety are carrying good crops, but the Robes (many of which have been worked over) are very light, with some exception, and in this case **pollination appears to have played a big part** in the cropping, and is most noticeable on some particular farms; probably the blossoming occurred over a longer period than in previous seasons, owing to soil conditions. Bees also play a considerable part in this matter, and on one particular farm where a large number of hives are in close proximity to the block of Robe Prunes, a regular and consistent crop is the result, and although this variety does not bear as heavy a crop as the D'Agens, yet it is seldom a failure on this farm.

Apricots: A very fair general crop is now maturing, and some of the early varieties are now showing color, and probably many hundreds of cases of this fruit will go forward very shortly to the Sydney market. The general crop, which are the Trevatt variety, will be later in the month, and will run into December before the finish. The quality should be good and the sizes large.

Peaches: This crop of the canning varieties, mostly Golden Queen, Phillips Cling, and Pullars, are showing up from fair to good crops, in some cases a fairly heavy fall occurred at stoning period, and very little thinning has had to be done. The fruit should be of good size and free from blemishes.

Drying Prunes in the Murrumbidgee Irrigation Areas.

Navels: Setting was in places very heavy, but owing to the continued hot weather a very heavy shedding has taken place, and although it is too early to forecast the crop, it appears to be somewhat on the light side.

Valencias: Some very heavy setting has been noted on many farms, but as in the case of Navels it is as yet too early to forecast the general crop from appearances, however, it should be heavier than the Navels.

Grapefruit: There is quite a large quantity of this season's crop still held on some groves, early pickings of large fruit, and skin marked fruit was sent to the factories for juice and jam purposes. At present the market is improving for good quality fruit, and the bulk will very shortly be harvested. Setting for next crop, however, appears to be very light.

Lemons: Fair to moderate setting, some groves are carrying a fair sprinkling of Summer fruit, and the demand for this crop is good.

Almonds: Generally appear to be carrying very good crops, with heavy crops in places, varieties are mostly I.X.L., Hatch's Nonpareil, Golden State and Riverside Peerless, with a few other varieties, the Eureka being a very heavy and consistent bearer, although on the small side. It gives a large proportion of kernel to shell; sometimes known as Drakes seedling on these areas.

Tomatoes: The first of the local crop has appeared in the shops during the present week, and are retailing at 1/6 per lb. Large planting of Tomatoes are grown on the area and both canning and marketing varieties are favored. The very earliest fruit always realises high prices, but this price drops very quickly when the

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New South Wales Notes—(*Continued*)

main crops come in. Last season, however, Tomatoes did not drop below 3d. per lb. in most shops, and at this figure there is quite a decent amount to be made by the grower, but the supplies last year fell short of the demand at times.

Melons: A good market is anticipated by growers of this fruit, if the present dry conditions continue in outside districts, and a fairly large acreage has been planted.

Vegetables: All varieties of vegetables are largely grown, and Carrots have been fetching good prices in the Sydney market. Many of the Italian growers have gone in on quite a large scale for vegetable growing, and many acres of trees of various varieties have been grubbed out to allow for an expansion in this industry, which has evidently been found by the owners to be more profitable than fruit growing.

N.S.W. Fruit Crop Prospects

APPLES LIGHT — PEARS MEDIUM — STONE FRUITS MEDIUM TO HEAVY.

FRUIT CROP PROSPECTS, according to the latest advices from the N.S.W. Department of Agriculture are set out in detail as follows:—

Apples and Pears.

On the **Northern Tableland**, variable weather which was at times unseasonably hot was experienced. Hail caused damage around Armidale. The setting of both Apples and Pears is good, the latter being outstanding.

Around **Orange**, a satisfactory crop of Granny, Jon. and Dels. is indicated, other varieties moderate. Williams and Packham's Triumph Pears medium; other varieties poor.

Apple and Pear crops generally light to failures in the **Bathurst-Blue Mountains** district. Granny Smiths are carrying a large proportion of malformed fruit. Hailstorms throughout the district caused severe loss; some orchards escaped and others were only affected slightly.

Jon. and Statesman are carrying the most fruit around **Young.** Grannies set heavily in a few orchards, but are very light in others; fruit badly malformed. Tasma (Democrat) fair, Romes light.

The **Pear** crop varies from moderate to light; Williams best, Packhams patchy, others very light. Very difficult to form an estimate of the pome crop owing to the widely varying settings.

The outlook for both Apples and Pears is said to be promising in the **Batlow** district. (Note: Hailstorm since this report was compiled reduced crops.)

M.I.A.: Reports from Griffith, Yenda and Leeton indicate that apart from a few orchards the Granny Smith crop is practically a failure. In the Leeton sector, growers are removing any fruit that has set so as to avoid spraying. Other varieties, except Delicious, appear to be carrying fair to good and in some instances heavy crops.

Williams and Packham's Triumph Pears both promise well, although shedding has been heavy.

Coastal: Apple and Pear crops satisfactory in the Hawkesbury River and Windsor districts. In the **Parramatta-Camden** area, Apple setting far below normal. Granny Smith, Twenty Ounce, Lord Nelson and Delicious are poor, Jonathan, McIntosh, Gravenstein and Carringtons are medium, but Cowells Red and Trevitt are classed as good.

A pleasing development of **Pears** is noticeable, Williams, Clapps Favorite, Caps., Packhams and B. Bosc having set good crops. With a few exceptions, there is only a light setting of Apples in the **Kurrajong-Emu Plains** area; Pears medium.

Cowells Red Streak, McIntosh Red and Jon. have good prospects at **Wedderburn** and there is a moderate to good crop of Granny Smiths in sight. Twenty Ounce moderate. Some deformity of Apples is noticeable, probably owing to a cold snap during blossoming or a light frost.

Generally, **Pears** are medium to poor; usually these crops are fairly light in this area.

Stone Fruits (Inland): Good crops of Napoleon, Florence and Early Lyons Cherries at **Orange;** St. Margaret and Black Republican moderate. In the Bathurst area Cherries light to medium.

Recent rains, slightly damaged early fruit at Young, but later varieties benefited.

There is a good setting of Apricots, Plums, Peaches and Nectarines in Northern Tableland orchards. Around Orange, Plums moderate; Peaches, Nectarines and Apricots satisfactory. In the Bathurst-Blue Mountain Apricots light to failures, Plums light and Peaches and Nectarines medium to light.

There is a heavy setting of Narrabeen Plums at Young; other varieties are moderate to light. Apricots very light, Peaches medium to light. Early Nectarines moderate to good, mid and late varieties light.

The Prune crop is patchy around Young, being heavy at Kingsvale and Prunevale, but light at Quamby and Maimaru.

At Griffith (M.I.A.) good crops of Prunes in the vicinity of bee hives (for other M.I.A. report see article by "Fruit World" correspondent).

Stone Fruit (Coastal): Good to light crops of Apricots are in sight. The Newcastle variety best at Maitland. Coloring of fruit is apparent in other areas, particularly in respect of Glengarry and harvesting of this type is about to commence at Wiseman's Ferry and Baulkham Hills.

Hail damage is noticeable in some groves.

Patchy to good settings of Plums are in evidence and on present indications the Willson's variety will be ready for harvesting about mid-November in the Baulkham Hills district.

Generally speaking there is a fair to good showing of Peaches. The fruit is developing satisfactorily and some consignments of the W. H. Spinks variety are expected to come forward from Windsor shortly. Heavy crops are in sight at Wedderburn.

There is a good setting of Goldmine Nectarines in the Maitland and Windsor districts, but other varieties are not so promising. In the Camden-Parramatta areas, there is a heavy crop of this fruit and it is stated that considerable thinning will be necessary. Prospects of satisfactory crops being harvested is reported from Wedderburn.

Bananas: In the **Tweed Heads** locality weather conditions ideal. Fruit is maturing well but only medium to small consignments are expected from this centre during November.

The weather was mostly warm to hot in other growing areas, and, while

New South Wales—(*Continued*)

some useful rains were received, generally the falls were insufficient for requirements. Heavy marketings of moderate to good quality are looked for from **Brunswick.** Indications point to satisfactory supplies from **Lismore,** but fruit will be mostly thin and, unless great care is taken in packing, many lots are likely to open up in a mixed-ripe condition. Medium to good consignments are in sight from **Nimbin** and **Woodburn.** Fair supplies are likely from **Macksville,** but the lack of sufficient moisture is causing bunches to ripen at an immature stage. Young fruit is of much better quality, however, and, given good rains, satisfactory marketings should take place early in the New Year.

Pineapples: Good crops are being harvested at Banora Point and Terranora. In the Woodburn district, returns are very poor and only sufficient for local requirements; however, young fruit promises very well.

Passionfruit: Generally heavy crops are showing on vines on the north coast. The fruit is filling nicely, and, given favorable weather with rain, indications are that good to excellent fruit will be obtained. In the Maitland district, excellent growth is apparent and there is every promise of a very heavy crop of Summer fruit. Vines are recovering from the severe setback caused throug the cold Winter in the Baulkham Hills locality and a moderate blossom is showing. However, it is not expected that the Summer crop will be as satisfactory as that of last season.

N.S.W. FRUIT ENQUIRY.

"City Council Unsympathetic."

SYDNEY (23/11/38).

The enquiry into the fruit industry in N.S.W. by **Mr. McCulloch, S.M.,** is nearing completion.

Much valuable information has been placed before the Commissioner, and the report will be awaited with interest. There is expressed a general hope that the recommendations will lead to an improvement in the industry.

Giving evidence early in November, Col. E. E. Herrod, Secretary of the Fruitgrowers' Federation of N.S.W., told of the difficulties in making representations to the City Council. No. 3 Market was unsuitable for the sale of fruit, despite requests for improvement.

Continuing, Col. Herrod advocated co-ordination amongst the present multiplicity of bulk loading organisations, both co-operative and proprietary.

Mr. L. J. Jenkins, President, N.S.W. Chamber of Fruit and Vegetable Industries, said that for many years he had been associated with others in putting forward proposals for market improvements to the City Council, but little or practically nothing had been done in the last 26 years. The City Council lacked the practical conception of the industry's requirements.

HAILSTORM AT BATLOW.

Batlow (9/11/38): Mr. H. V. Smith reports that on Wednesday, November 9, they had a severe hailstorm. However, as there was a heavy crop of Apples showing throughout the district, and the hail was very large, (some of it as large as hen's eggs) about 50 per cent. of the fruit on the trees was missed and still a reasonably good crop is expected.

FRUIT PUBLICITY IN N.S.W.

Big Success with Orange Advertising.

Cherries Now Publicised, with Apricots Peaches and Plums to Follow.

THE Fruitgrowers' Federation of N.S.W. reports, under date November 6, that the advertising of fruit has been made possible by a grant of money from the State Government and the Rural Bank, and over the last four weeks both radio and press advertising has taken place.

Particular emphasis has been laid upon the health value of Oranges, and since the middle of October radio publicity has taken a particularly effective form, in that as a result of orders booked by broadcasting stations, the Eat More Fruit Committee has had to purchase over 14,000 cases of Oranges to supply orders. The Campaign is still in course of progress and orders at the rate of 400 to 500 cases per day are resulting from the cash on delivery campaign.

Consideration is being given at the present time to the continuance of the Campaign for another week as coastal growers report that there is still a large supply of small juice Oranges available. Of the total quantity of fruit purchased, approximately 4,400 cases were purchased on the open market, but latterly supplies have been confined to packing houses who would guarantee fruit that was fresh and of good quality.

In addition to the advertising of Oranges, Cherries have also been receiving attention, both the method of packing employed by the Young fruitgrowers, and the many ways in which Cherries could be used having been publicised. The Young Fruitgrowers' Co-op. Society Ltd. have also agreed to supply Cherries in response to any orders booked by the radio stations, or as a result of press advertisements.

It is intended as the quality and quantity of Summer fruit increases, to also advertise Apricots, Peaches, Plums and other Summer fruits.

BANANAS IN N.S.W.

£300 Provided for Manurial Experiments :: Satisfactory Progress with Bunchy Top Control.

The Banana Growers' Federation Co-operative Ltd. has offered £300 yearly towards expenses of an officer to supervise manurial experiments.

The report presented at the annual meeting of the Federation held in November at Murwillumbah stated that arrangements aiming at the establishment of experimental fertiliser plots in the four growing areas, under the supervision of the Department of Agriculture, were nearing completion.

The report also included advice to the effect that the **Bunchy Top** campaign continued to show satisfactory progress in controlling the disease.

DRIED FRUITS NOTES

Australian Dried Fruits

RECORD PRODUCTION IN 1938 — PRODUCTION OF 90,000 TONS.

CONTROL BOARD ISSUES WARNING AGAINST INCREASED PRODUCTION UNLESS NEW MARKETS ARE FOUND.

IMPORTANCE OF CONTINUED IMPERIAL PREFERENCES.

The 1938 production of dried fruits in Australia was a record one of 90,000 tons, of which 75,000 tons are being exported. The heaviest crop previously was that of 1933, when 77,832 tons were produced—65,727 were exported.

These figures are given in the 14th annual report of the Commonwealth Dried Fruits Control Board. In this report the Board issues a serious warning against the increased production of dried fruits in Australia unless, and until, there is a material change in world conditions, and it becomes possible to export to other than the markets of Great Britain, New Zealand and Canada.

In prefacing the report, the Minister for Commerce (Sir Earle Page) drew attention to the great increase in production during the season 1938 of Sultanas, Currants, and Raisins. He said in 1924 the production of dried fruits within Australia was 32,500 tons annually. During the season 1937 the tonnage of processed fruit approximated 71,250 tons. During the season 1938, the production advanced to the record total of approximately 90,000 tons. Although an increase in consumption within the Commonwealth has been noted during recent years, and it was now estimated that **the Australian consumption would amount to 15,000 tons per annum,** it was evident that a very large proportion of the tonnage produced in the Commonwealth must be shipped overseas. In 1937, 54,000 tons had been exported, and **during the present season the quantity exported would be about 75,000 tons.**

The work of the Board has been conspicuously successful, and he was assured that the system of organisation would be a material factor in resisting the collapse of prices and indiscriminate competition.

The report stated that, apart from the favorable climatic conditions, which resulted in the production of the finest quality Raisins, the average increased tonnage of fruit per acre could be attributed also to the beneficial results of the extensive drainage work planned and carried out in the Mildura areas.

Assuming further improvements on existing areas under vines, **Australia may produce 100,000 tons of dried fruits per annum in the course of a few years.** In the light of this opinion, the Board definitely opposes any effort for increased production of dried fruits, remembering that the consumption of dried fruits in Australia was approximately 15,000 tons per annum.

It should not be forgotten that the present preferential admission of Australian dried fruits to the British and Dominion markets was the cause of any prosperity enjoyed by the industry. Over-production would be disastrous, but equally so would be any variation in the preferential treatment of Australian dried fruits in the British Commonwealth. It should be frankly recognised that if existing preferences were not continued in Empire markets there would be a radical alteration in the economics of the industry, and to that extent the industry rested on a somewhat dangerous basis.

It was gratifying to know that at the date of the report, progress had been made in the task of disposing of the record crop of the 1938 season. To September 30, sales had been effected in Great Britain, Canada, New Zealand and in smaller markets, amounting to 50,000 tons, and leaving for later disposal approximately 25,000 tons. The Board was hopeful that the whole of the harvest still unsold would be liquidated by the end of February, if not earlier, leaving an open market for the produce of the 1939 season. To this extent conditions had favored the producer and the Board in the realisation of the heaviest crop yet produced in Australia.

The report directs attention to the fact that Great Britain, our principal outlet for dried fruit, has the highest consumption of these commodities in the world.

Publicity.

The book entitled "Water into Gold"—subsidised by the Board, has proved one of the most successful methods of propaganda. The Board continued to support the joint publicity programmes in the United Kingdom and appreciates the effort of the London Publicity Director, Mr. A. E. Hyland.

Appreciation is also expressed to the Australian Trade Commissioner in Canada (Mr. L. R. MacGregor) also to Mr. F. L. McDougall, C.M.G., Chairman of the London Agency of the Board.

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Dried Fruits—(*Continued*)

COMMONWEALTH DRIED FRUITS CONTROL BOARD.

Election of Growers' Representatives. Nominations Close December 15.

The Dried Fruits Export Control Act provides for the election biennially to the Commonwealth Dried Fruits Control Board of two representatives of the growers in Victoria and one in each of the States of N.S.W., S.A., and W.A.

As the period for which the present representatives were elected will expire on February 6 next, arrangements are now being made for the election of the representatives for the ensuing two years.

Nominations for election as the growers' representatives for Victoria must be lodged with the Deputy Returning Officer, Commonwealth Electoral Office, 315 Post Office Place, Melbourne, C.1, on or **before December 15, 1938.** Forms of nomination may be obtained from the Deputy Returning Officer and each nomination must be signed by at least ten growers entitled to vote at the election.

A roll of growers of dried vine fruits has been prepared and a copy forwarded to each packing shed. Growers are invited to inspect the roll at their local shed so as to satisfy themselves that their names are duly included. The manager or proprietor of each shed has been requested to notify the Deputy Returning Officer of any names of growers omitted from the roll in order that they may be added to the certified roll to be used for the purposes of the election.

VICTORIAN DRIED FRUITS BILL.

With minor Government amendments, the Legislative Council on November 15 passed the bill to consolidate and amend the law relating to dried fruits and to packing houses.

The House rejected an amendment by the Unofficial Leader (Mr. Eager) which provided that appeal could be made against a decision of the Governor in Council to refuse a renewal or transfer of the registration of a packing house.

GRAPE-PICKING CONTAINERS.

Experiments With Enamel-coated Petrol Tins.

PROBABLY THE CHEAPEST and most convenient containers for use during the Grape-picking period are 4-gallon petrol tins. Unfortunately, these tins rust and particles of rust eventually find their way into the fermenting tanks along with the crushed grapes or juice, and come in contact there with the fermenting juice or must, and later, the wine.

An excess of iron causes a disorder known as "blue casse." A very small amount of iron in excess will cause trouble, particularly in white wines, should they, when aerated (as during the process of racking) become cloudy, and although the wine may later become somewhat bright, the cloudiness is likely to recur. The grower should therefore endeavor to assist the winemaker in preventing an excess of iron from contaminating the wine.

The Viticultural Branch of the Department of Agriculture has carried out tests with enamel and aluminium paints, and it has been found (states a note in the N.S.W. "Agricultural Gazette") that rusting can be prevented and the life of the tins lengthened by painting the inside of the tins with a good quality enamel. Cheap enamel is not satisfactory, and any substance which would be easily affected by the acids in the grapes should be avoided.

Regarding the use of galvanised iron trays or linings, as seen in some instances in the lorries during last vintage, it might be explained that the zinc coating of the galvanised iron is liable to attack by the acids of the Grapes, and as well as being detrimental to wines, as mentioned above, is also a poison. It would, therefore, be advisable for growers to apply a coating of good enamel paint to these tins or linings.

DRIED FRUITS LITIGATION.

F. A. James Claims £26,000 Damages.

Early in November the hearing was begun under which Frederick Alexander James, of Adelaide, is claiming £26,000 damages from the Commonwealth of Australia.

Plaintiff claims that his business was damaged by the operation of the Dried Fruits Acts which had since been declared invalid by the Privy Council.

Cross-examined, plaintiff stated he had sold his business and properties for £20,000.

For the Commonwealth, Mr. Ham, K.C., argued that James had no substantial basis of claim. The case was important, as if the plaintiff's action were sustained anyone in the Commonwealth who could under these Acts state his trade had been hampered or curtailed would have a similar action.

The case is proceeding.

VICTORIA.

Water Shortage in Harcourt District.

Harcourt: At a public meeting at Castlemaine on December 1, the Government was commended for deciding to construct a reservoir at Lauriston, and urged that the scheme be proceeded with immediately. The Government was also urged to exploit as a temporary measure every avenue of making available for stock and irrigation supplies from underground sources; the provision of additional storages within the Coliban, and also the elimination of losses in distribution and the repeal of regulations restricting the Lauriston reservoir to domestic purposes.

Speakers emphasised that through inability to obtain £1 worth of water growers at Harcourt had lost hundreds of pounds' worth of special crops. It was claimed that a good storage could be obtained on the Loddon.

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TASMANIA

GOOD CROPS OF APPLES AND PEARS FORECAST — CULTIVATION AND SPRAYING WELL IN HAND — REPORT OF APPLE AND PEAR COUNCIL ANNUAL CONFERENCE APPRECIATED — NEED FOR IMPROVED GRADES FOR INTERSTATE MARKETING.

(From Our Correspondent.)

THE PROSPECTS for the 1939 crop have been slightly altered since last month; apparently a slight late frost has caused some varieties to drop more heavily than anticipated in the southern districts.

W.P.M. seem up to the average. **Alf.** have thinned out to a medium crop, **C.O.P.** still appear to be a good crop, **Jons.** have thinned out a lot where the frost caught them, but will average heavier than last season.

Delicious are patchy, and **Cleos** have thinned to a medium crop in most localities. **S.P.M.** seem to average better than last year, while **T.P.** have had a heavy drop. **Sturmers,** though light in places, will come up to the average.

Grannies appear to have set well, and should be much above last year as thousands of young trees and reworks are now coming into bearing. **Democrats** promise much better than last season.

Of the different varieties of **Pears, W. Cole** seem to be the heaviest in most localities, while other varieties are mostly quite a good crop.

The average temperature has remained higher than usual for the time of year, 91 degrees was registered in Hobart on November 20, accompanied by a strong hot wind which gave place to a cool southerly change on the 21st, with rain.

Growth continues rapidly in consequence. So far Black Spot is not much in evidence.

Berry fruits are looking well and the recent rain will keep them growing.

Strawberries are, of course, ripe, but supplies are light as they have been subject to disease of late years that had reduced the yield considerably.

Local **Cherries** are also on sale in the shops.

Cultivation is well in hand in most orchards and the absence of heavy rains has allowed the soil to remain loose when broken down to Summer tilth. Spraying continues for one pest or another almost continuously. Red Spider and Canary Fly don't seem very bad yet, but no doubt will become troublesome later as the dry weather sets in.

The detailed account of the Apple and Pear Council's Conference in last month's issue of the "Fruit World" was much appreciated by readers. The publication of these conferences' activities helps to keep the mass of growers in touch with their representatives and gives them a better idea of the problems that face the industry.

Selling Apples by Count.

I notice in your issue of November 5 an account of a deputation to the Victorian Minister of Agriculture re selling by count instead of by weight. **It seems peculiar that large fruits such as Apples and Pears should ever have been sold by weight** or that it was necessary to organise a deputation to ask for such a change or that legislation is necessary to achieve it.

The Control Bill (Apples and Pears) is still most unpopular in Tasmania, and I hear that many mainland growers are strongly opposed to it also.

The present Apple and Pear Council is doing all that can reasonably be done.

I notice in your report of the Conference that O.S.R.A. is to be requested to provide **refrigerated space for Port Said.** This is a move in the right direction.

I notice Mr. Moore reported on the proposed **grades for interstate marketing** recommended by the Fruit Grading Conference held in Sydney last December. When this is given effect to it will do a lot to stabilise the market without being unduly harsh on the growers. The survey by Mr. Geo. Wickens, of the West Australian fruit industry is very interesting in all its details. The average yield per acre (under 150 bushels per acre) seems too low to be economic. I think Tasmania's average per acre is nearly double that.

Mr. Wickens does not mention the cost of production per bushel, but it must be fairly high.

Tractor Cultivation :: Fruit Crops Free of Disease :: Spraying for Pest Control :: Appreciated Rainfall.

THE Minister for Agriculture (Mr. R. Cosgrove) is in receipt of the following report from the Chief Horticulturist relative to the conditions of orchards throughout the State.

Weather and Crops.

At the close of October some very welcome rains were experienced throughout fruit-growing areas. Apples and Pears had not shown any noticeable signs of the dry weather until that period, but cultivations were well behind and the falls were generally regarded as opportune, especially in berry fruit localities. Some early Cherry varieties suffered from the sudden excess of moisture, but on the whole cracking and splitting was comparatively slight. **Cultivation by means of tractors** enables the orchardist to cover his land very much more quickly; care should be taken, however, to ensure that the soil tilth is not injured through working whilst still in a damp or sodden state.

October rainfall records obtained from the Weather Bureau are as follows:—Hobart 183 points compared with average of 233; Launceston 205 compared with 271, and Franklin 221 compared with 363. Average temperatures were slightly in excess of normal. Both Apple and Pear crops are good.

Pest Control.

Up to the present time fruit trees in almost all localities are singularly free from disease. The first large spore discharge of Black Spot fungus took place at the end of October, but as this practically coincided with calyx spray applications little or no infection took place.

Canary Fly and Red Spider are reported to be much less prevalent than usual.

Espalier Pear trees on trellises in the orchard of Messrs. Chopping & Son, Woodbridge, Tasmania.

On the other hand, Codling Moths are on the wing in large numbers and have already been freely caught in lures. Every effort should be taken to keep a good arsenate of lead coverage on the young fruits. Large numbers may be taken in bottles having slightly narrowed necks and containing about two inches of diluted Apple juice or other similar liquid as an attraction to the insects. These lures are suspended in the trees or around the orchard.

It seems probable that the nicotine sulphate used for Canary Fly control may be responsible for a still further reduction in Codling Moth.

In some districts Powdery Mildew is rather troublesome, but the regular colloidal sulphur routine sprays should serve to protect developing fruit buds.

General.

Pear crops have rarely shown a better promise than at the present time; in certain districts frost damage is reported, but this is by no means general, and the extent cannot yet be accurately ascertained. Growers would be well advised to consider thinning as soon as the usual "drop" has been completed; this will be particularly necessary with certain of the smaller and free setting varieties.

Although a little reworking is still being done with cold stored scions, this operation has finished for the time being. Any scions that have missed can be replaced in January by budding into suitably placed shoots. The incidence of "Dieback" must be closely watched and the glycerine-mercuric treatment given where necessary.

Berry Fruits.

The rains already referred to undoubtedly saved Strawberry crops from a very precarious position, and the immense show of bloom is setting very satisfactorily. Gooseberries benefited greatly from the rains and are now being marketed freely for culinary purposes. Black Currants have set well, whilst Raspberries and Loganberries show a good promise of bloom.

Tasmanian Fruit Crops

Apple Crop Estimated at 4,250,000 Bushels; Pears 300,000 Bushels.

PRELIMINARY FRUIT CROP estimates for Tasmania, based on returns furnished by the District Orchard Inspectors and a large number of commercial growers throughout the State, have now been analysed by the Chief Horticulturist (Mr. Thomas) and compiled, full details being given below.

Apples.

Another good blossoming was experienced this year with ideal conditions for pollination and fertilisation. The season to date has been very similar to that of 1937 with dry and rather warm conditions prevailing. Good rains at the end of October have ensured adequate moisture requirements for the time being, though much now depends on normal rains during December and January.

Prospects at the present time point towards a 90 per cent. crop, or approximately 4,250,000 bushels.

Generally speaking, the condition of the main varieties for the State as a whole, would be as follows:—

(1) **Worcester Pearmain, Granny Smith** and **Jonathan** are carrying heavy crops, though the last mentioned variety is lighter in northern districts than was the case last year.

(2) **Democrat, Scarlets** and **Cleos** promise good average crops in most districts.

(3) **Delicious, Sturmer, Crofton, Dunns, C.O.P.** and **Alfriston** are variable, but on the whole promise a fair yield.

Pears.

Following the light crop of last season it was anticipated that crops this year would be good. Ideal conditions during the blossoming and setting period more than justified this probability and at the present time it is estimated **that the commercial crop will approximate 300,000 bushels.**

Winter Cole is outstanding, with **Beurre Bosc, Packham's Triumph** and **Williams** very good in almost all localities. **Doyenne du Comice** is unusually consistent, but **Josephine** is rather patchy.

Stone and Berry Fruits.

The prospects of crops on **Plums, Apricots** and **Peaches** are good, with Cherries inclined to be patchy.

Of the berry fruits, Raspberries and Loganberries promise heavy crops and **Gooseberries** average to good. Black Currants are variable; certain varieties suffered premature bud burst during the warm Autumn, but where this did not occur prospects are excellent. Strawberries are already being marketed, blossom has been heavy in many districts, but much now depends on harvesting conditions.

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THE CITRUS INDUSTRY

STORAGE OF ORANGES.

Investigations into Losses from Wastage.

DURING the past three years intensive investigations into the storage of Oranges and Mandarins from the coastal districts of New South Wales have been carried out by the Department of Agriculture. The investigations (states an article in the "N.S.W. Agricultural Gazette") form part of a five-year programme of research made possible by a special grant of £10,000 by the Commonwealth Government, the principal object of the investigations being to determine the nature, extent and control of the various forms of wastage during cool storage, thus enabling shipments to arrive at distant markets in good condition.

The Departments in N.S.W., Victoria and South Australia are co-operating with the Council for Scientific and Industrial Research in this work, which in N.S.W., comprises experiments with **Washington Navel** and **Valencia Oranges** from the Gosford, Mangrove Mountain and the Hills districts and Emperor Mandarins from the Hawkesbury River and the Hills district. The storage of common Oranges has been discontinued, as not only did they prove unsatisfactory in storage, but the production of Common Oranges is decreasing.

The principal factors affecting storage which have been investigated are variety, maturity at picking, temperature of storage, locality, sweating and other pre-treatments, such as processing with various solutions, waxing, and the effects of different types of wrapping and case-lining materials. Chemical tests to determine the effects of maturity, temperature of storage and length of time in store on the color, acidity, specific gravity, juice content, palatability, rate of acid loss, and loss of palatability during storage have been carried out.

A great deal of valuable data has already been obtained, and it is hoped that it will soon be possible to make complete recommendations to the industry for the handling and storage of citrus.

MULCHING CITRUS TREES.

The "New Zealand Journal of Agriculture" states that the results of mulching citrus trees over a period of years in the Auckland district are apparent in the smooth-surfaced, dark green foliage and in the smooth clear skin of the fruit. Since mulching was undertaken the quantities of artificial manures necessary have been reduced by nearly half. The practice is to grow clovers or grass in an adjacent field and place the cut material in late summer round the trees up to the limit of branch spread.

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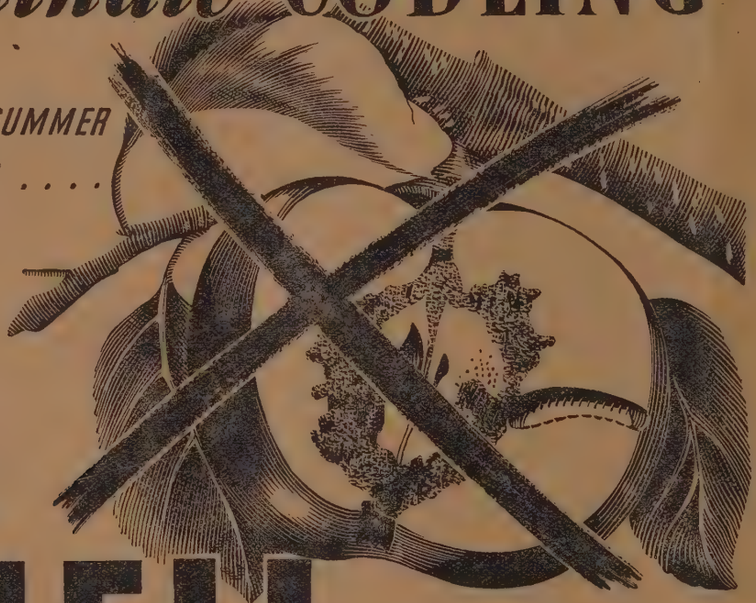

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N.S.W. CITRUS CROP PROSPECTS.

According to the latest report from the N.S.W. Department of Agriculture, there was heavy blossoming on most **Navel** Orange trees on the M.I.A. and a good setting is indicated. In this district harvesting of **Valencias** is proceeding, and quantities are being exported to N.Z. from Leeton. Generally speaking, a satisfactory setting is expected following the recent bloom.

Some main crop **Lemons** still remain at Leeton; prospects for next season's fruit are medium to good.

In the **Curlwaa** Irrigation Areas, Navel trees flowered very well and the initial setting is heavy. A few Valencias have been harvested and fruit is of good quality; picking for shipping to N.Z. commenced early in November. Trees are blossoming profusely. Lemons are only going forward slowly as prices are very low.

The Coastal Areas.

Navel trees are in good condition and generally a profuse blossoming is apparent, giving indications of a satisfactory setting for the 1939 crop.

Main crop Valencias are being harvested freely from most districts. Good blossom is being carried on these and on Common Orange trees, although at Maitland flowering is rather patchy on the latter.

The Lemon crop is showing up to advantage in most groves.

GREEN MANURING OF CITRUS TREES.

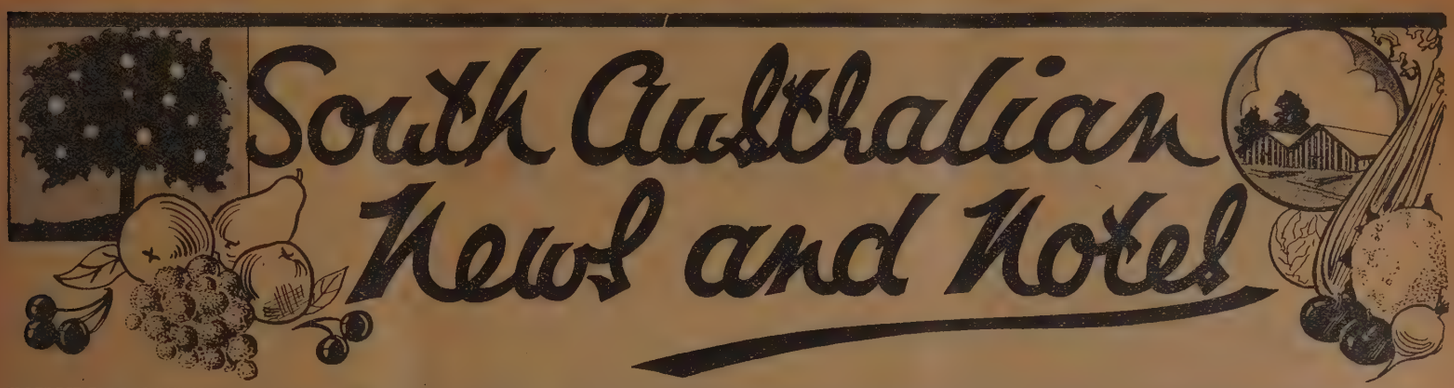
The Council for Scientific and Industrial Research recently issued a Bulletin (No. 120) discussing some effects of green manuring on citrus trees and on the soil.

Since very early times, the growing of a green crop and ploughing it under has been recognised as beneficial to succeeding crops. The Chinese appear to have known the value of this procedure in the fifth century B.C. The Romans, too, placed great importance on leguminous crops for green manuring, and Pliny considered tick beans the best crop for this purpose.

It is, therefore, perhaps only natural that the use of green manures was tried when citrus trees were grown under irrigation at Griffith, N.S.W. The Council's Research Station in that locality has been carrying out a number of experiments on the matter during recent years, and Bulletin 120 discusses the results that have been obtained. It shows in detail how the nitrogen content of the soil is increased at varying times of the year when green manuring is practised.

The growth of a Winter green manure crop (tick beans) increased the growth and yield of trees. The growth of a Summer green manure crop (cow peas) at first decreased the growth and yield of the trees owing to the competition of the cow peas for soil moisture during the Summer. However, after about ten years the trees on the cow peas plots caught up to those where no green manure was used.

It is also shown that the increase in the water holding capacity of the soils after several years of green manuring is significant, although not particularly important. **The green manure has, however, a marked effect in preventing or reducing the loss of structure of the soil that is noted in the plots where it is not used.**



INCLUDING OFFICIAL NOTES AND REPORTS FROM THE SOUTH AUSTRALIAN FRUITGROWERS' & MARKET GARDENERS' ASSOCIATION.

The South Australian Fruitgrowers' & Market Gardeners' Association Incorp.

EXECUTIVE COMMITTEE MEETING.

THE November meeting of the Executive Committee was held in the Board Room, 288a Rundle-street, Adelaide, on November 25, 1938, at 10.30 a.m.

The President (Mr. W. J. Bishop) presided. There were also present Messrs. G. H. Schultz, C. H. Ragless, J. B. Randell, W. H. Ind, G. Jennings, A. E. Brealey, E. L. Giles, H. W. Parsons, H. N. Wicks, N. T. Hobbs, C. Ridley, M. J. Vickers, L. J. Wicks, A. O. Petersen, J. G. Potts, F. Hughes, H. B. Robsons, J. Turner, S. M. James, and Secretary. Apologies: Received from Messrs. A. Elliott, R. Cramond, A. G. Strickland and Hon. T. Playford, C. W. Giles.

Correspondence: Fruit Industry Sugar Concession Committee, together with 7th annual report. Received.

Johnstone, Olsson and Bleby relative to selling single lots in the market.

Mr. L. J. Wicks moved "That the solicitors be asked to peruse the Special Markets Act concerning selling, and report further." Seconded Mr. H. N. Wicks.

Amendment: Mr. J. Turner moved "That the Secretary obtain a copy of the Act, and if too involved get legal advice on the matter." Seconded G. Jennings. The amendment was carried.

Dept. of Agriculture, advising quantities of fruit held in cold storage 31/10/38. Received.

Rev. E. Tregilgas, advising of a Thanksgiving Service to be held in the Marion Methodist Church on 20/11/38, in memory of the late J. Wright. Received.

The President reported that Mr. L. J. Wicks and the Secretary had represented the Association at the service. Mr. C. Ragless spoke on Mr. Wright's life, and at the conclusion of which the members stood in silence for one minute.

Winemakers' Association of S.A. Incorp., expressing appreciation of the letter of sympathy received on the occasion of the recent air tragedy. Received.

Hon. T. Playford, Premier of S.A., expressing his appreciation of letter of congratulations. Received.

H. De Couter, London, advising that a report regarding market expansion was being prepared and would be forwarded within a week or two. Received.

Metropolitan County Board, advising that the Board would be meeting on December 6, when the use of manure bags for the carrying of fruit and vegetables would be discussed. Received.

General Accident Fire and Life Assurance Corp., advising that the matter of hail insurance was being considered. Received. The chairman reported that he had interviewed the S.A. manager for the Co. who stated he should be in a position to report something definite at an early date.

National Insurance: Mr. J. Turner brought forward for discussion the matter of National Insurance. He stated that the additional costs to the industry through the introduction of this insurance would seriously affect the sale of fresh and canned fruits overseas, which is the life blood of the industry. If Australia was to hold her place in the world markets costs of production should be lowered not increased, and he thought the Association should endeavor to gain an exemption for the fruit industry from this tax.

Mr. F. Hughes, Chairman of the Soft Fruits Section supported Mr. Turner, and stated that this Section had discussed the matter, and recommended that the Association take steps on the lines suggested by Mr. Turner. He moved: "That the Federal members for S.A. be approached with the view of having the fruitgrowing industry exempted, and also that a letter of protest be forwarded to Canberra," Seconded Mr. L. J. Wicks. Carried.

Mr. E. Giles moved "That interstate fruitgrowers' organisations be asked to co-operate with us in our endeavor to have the industry exempted." Seconded Mr. G. Jennings. Carried.

Mr. N. T. Hobbs moved "That the S.A. Fruitmarketing Association also be asked to co-operate." Seconded Mr. J. Turner. Carried.

Pears: Mr. A. E. Brealey (Paracombe) advised that the Apple and Pear Council had agreed to delete 12 varieties of Pears from the export list after the coming season. Four varieties, viz. Williams, Kieffers, Lemon Bergamot and Howells affected S.A. to a great extent, and he asked that the Association take steps to have these retained on the list. Williams, it was considered, could be exported from certain districts with safety. After discussion, Mr. M. J. Vickers moved "That the matter be dealt with by the Apple and Pear Section." Seconded Mr. H. N. Wicks. Carried.

Apple Section: Mr. A. O. Petersen moved "That the annual meeting of the Apple and Pear Section be held on Friday, November 2, 1938, at 10.30 a.m." Seconded Mr. J. B. Randell. Carried.

Sectional Reports.

Tomato Section: Mr. J. G. Potts reported that "boiled" trains over the past week or so had resulted in a serious loss to growers

Soft Fruit Section: Mr. F. Hughes reported that the Section had held its annual meeting when officers for the coming season were appointed. The Section had passed a resolution asking that the Fruit Grading Regulations in the local markets be enforced, and that the Inspectors be in attendance at a reasonable time to see that the regulations are observed. Mr. F. Hughes moved "That the Dept. of Agriculture be requested to enforce the Grading Regulations." Seconded Mr. J. Turner. Carried.

Cherry Section: Mr. W. J. Bishop reported that the Cherry export season was getting active. The quality this year was good despite the dry conditions.

Cases: Mr. E. Giles reported that the case position was getting no better. Mr. F. Hughes moved "That the merchants be approached again re the payment of cases. Seconded Mr. E. Giles. Carried. It was resolved that a conference be arranged with the Merchants' Association as early as possible, Messrs. W. J. Bishop, L. J. Wicks, N. T. Hobbs, J. G. Potts, F. Hughes, J. Turner and E. Giles to represent this Association.

Citrus Section: Mr. N. T. Hobbs reported that citrus was now selling better, but local supplies were becoming lighter.

Paracombe Branch: Mr. A. E. Brealey expressed the appreciation of the Torrens Valley Public School Exhibition Committee for the donation of a cup for the Apple Packing Competition, also the attendance of the President at the Exhibition for the purpose of presenting the cup and shield. Both the cup and shield went to the Millbrook School.

A report from the Society was read and received.

The Secretary reported the death of Mr. H. J. Bishop, and advised that a wreath and letter had been forwarded.

The financial statement was presented and accounts passed for payment.

Christmas Markets: The proposed Christmas markets were submitted and the President reported that the Market Co. had conferred with the Association on same.

December Meeting: It was resolved that the Executive Committee meet on December 16 instead of the 30th.

Weights and Scales: Mr. H. W. Parsons advised on the inconvenience of having weights and scales tested at the place required by the inspectors, and moved "That the Association endeavor to have same stamped, if not in the market place, at the Association offices." Seconded Mr. J. Turner. Carried.

Hon. T. Playford, Premier of S. Aust.

Some few months ago the columns of the "Fruit World" contained an article congratulating Mr. T. Playford, of Nortons Summit, on his elevation to the Ministry (Commissioner of Crown Lands) and it now is our proud duty to congratulate him on his accession to rank of Premier of South Australia.

In the previous article it was mentioned that Mr. Playford was endowed with many of the qualifications of his famous grandfather, "Honest Tom" Playford, who on two separate occasions was elected Premier of South Australia, and the preferment

APRICOT CROP.

Growers are asked to make early arrangements concerning their Apricot crop, and if unable to satisfactorily dispose of same to advise the Soft Fruit Section accordingly.

CHRISTMAS GREETINGS.

As President of the S.A. Fruitgrowers and Market Gardeners' Association Incorp., I desire to extend to all members my sincere appreciation of their co-operation and loyalty during the past year.

In reviewing the year that is now dying, the many obstacles which at the time seemed insurmountable have been negotiated successfully, thanks to loyal co-operation of members.

In wishing all the merriest of Merry Christmases, and the earnest hope for a happy and successful 1939, I exhort all members to stand loyally by their Association, and not rest content with past achievements but strive even harder for greater triumphs.

W. J. BISHOP,
President.

DECEMBER EXECUTIVE MEETING.

Will members please take notice that the December meeting of the Executive Committee will be held on December 16, 1938, at 10.30 a.m.

A fully representative gathering is requested at the meeting when matters of importance to the industry's welfare will be discussed.

W. J. BISHOP, President.
A. STUART, Secretary.

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SOUTH AUSTRALIA—Continued

of the present Premier bears out that statement.

Mr. Playford first entered Parliament in 1933, and was re-elected at the last elections held in April last.

He is a fruitgrower at Nortons Summit, growing principally Cherries, and is therefore well acquainted with the problems confronting the fruitgrower to-day. He has always been a member of the S.A. Fruitgrowers' and Market Gardeners' Association, and is a member of the Executive Committee.

During his parliamentary career he has always had the interest of the industry at heart, and his efforts to advance its affairs have been many and successful.

The industry in South Australia is very appreciative of his endeavors and wish him every success in the honored and responsible position he now holds.

Mr. Playford succeeds Mr. R. L. Butler, who resigned his seat in the House of Assembly to contest the Federal seat of Wakefield made vacant by the tragic passing of the late Mr. C. A. S. Hawker.

Soft Fruit Section.

The annual general meeting of the above Section was held on Friday, November 18 last.

Officers for 1938-39 Season: Chairman, Mr. F. Hughes. Committee, Messrs. N. T. Hobbs, A. Floyd, L. Pethick, H. N. Western, L. Western, L. J. Wicks, A. Elliott, H. B. Robson, F. A. Wicks, F. Warner, W. C. Verrall, G. T. Pitt, J. Turner, G. Halstead. Price Fixing Committee, Messrs. H. N. Western, L. Pethick, A. Elliott, F. Hughes, A. Floyd, L. Western, G. Pitt, G. Halstead.

The matter of new markets was discussed and the Committee was empowered to investigate.

GROWERS' ORGANISATION HAS 700 MEMBERS.

For almost a century growers on the Adelaide Plains and Mount Lofty Ranges have provided Adelaide with its fresh fruit through the market exchanges on East Terrace.

Most of the growers are members of the S.A. Fruitgrowers' and Market Gardeners' Association, which was formed about 35 years ago.

Many of the State's leading orchardists have at various times lent a hand in building up an organisation which to-day can claim the membership of 700 market gardeners.

The need for some kind of controlling body is obvious in every undertaking and there is urgent need to-day for producers connected with the raising of perishable or semi-perishable merchandise to have an organisation that can plan ahead and avoid any possibility of a congested and disorderly market.

This Association has branches to look after the interests of the different classes of growers.

The citrus, Cherry, Celery, Tomato and soft fruit men all have their own separate sections.

The Tomato Section dealt with 90 per cent. of the total crop of glasshouse growers last year, and the Celery Section also has done great work for members in eastern States markets.

Most of the citrus fruitgrowers who are members of the Association have holdings on the Adelaide Plains, and their picturesque groves provide one of the most attractive tourist sights round Adelaide.

PICKERS WILL SOON BE BUSY IN SOUTH AUSTRALIAN ORCHARDS.

1938 Crop Should be Equal to Usual High Standard.

SCATTERED over the Adelaide Plains and through the Mount Lofty Ranges, are hundreds of orchards producing fresh fruit which for quality is unsurpassed in the Southern Hemisphere.

The dry seasonal conditions spoilt what might have been a near record, but it is pleasing to observe that the quality of the fruit, especially Peaches and Nectarines, will not show any decline on the high standard of other years.

The Plum, Apricot, and Peach crops will shortly be picked. The Peach harvest lasts until about the middle of April, and present indications point to an average return.

Most gardeners on the Adelaide Plains specialise in the growing of Apricots, Peaches, Nectarines and Plums, but because of the lack of good markets in the neighboring States they are forced to look to the local market for the disposal of the major portion of their crops.

Fortunately a limited export market in the Dutch East Indies—which was secured by the outstanding excellence of our fruit—relieves the local position, but until a closer outlet is obtained it seems that the lot of the soft fruit gardener cannot be materially improved.

Fast motor transport services to country areas have considerably extended, and in some cases opened new markets for fresh fruits. Regular supplies to numerous country centres are forwarded from various depots.

Brave efforts to increase local consumption have been made by the Fruitgrowers' and Market Gardeners' Association and various individual members. In recent years attention has been given to improvement in the presentation and wrapping of Peaches.

The old method of packing in newspaper lined cases has been discouraged and growers have been urged to pack their fruit in a manner that commands attention.

Some gardeners have gone so far as to arrange their fruit in attractive retail cardboard boxes with cellophane coverings. The boxes contain one dozen and half dozen lots. The innovation should be a success because the fruit appears to keep its freshness much longer under this modern packing method.

Some growers are realising that it is essential for the consumer to receive the fruit without any loss of condition, and they are paying special attention to the presentation of goods for marketing.

In this respect the retailer can materially assist the grower if every care is taken in the sale of only sound fresh fruit.

The employment of scientific methods in gardening has brought a high degree of efficiency in commercial orchards.

It follows that a community showing efficiency in one avenue of its industry must sooner or later gain success in all its branches, and it is to be hoped that the S.A. Fruitgrowers' and Market Gardeners' Association will shortly be rewarded with healthy export markets for its members.

Cherry Crop now Being Gathered.

South Australia is fast making a name for itself as a Cherry-growing State. The area in South Australia in which Cherries can be grown is limited. Natural drainage is essen-

(Continued on next page)

OBITUARY

The Late Mr. H. J. Bishop.

THE late Mr. H. J. Bisbop was born at Norton Summit, a fruit-growing district in the Mt. Lofty Ranges. His father was engaged in fruitgrowing as were both his paternal and maternal grandparents, so that fruit was very early of paramount importance.

When only a boy he undertook the responsibility of marketing the crop, and for several years drove a three-horse team to the East End Market.

Trade being dull in South Australia, Mr. Bishop turned his attention to Western Australia, and very soon had built up such a large connection that his whole time was occupied. He later established the business of Silbert, Sharp and Bishop Ltd., which he built up to one of the largest and most successful fruit businesses in Australia.

The Late Mr. H. J. Bishop.

Mr. Bishop had unbounded energy and anything he undertook would be carried out in its entirety in every detail.

In addition to Mr. Bishop's private business he was connected with numerous undertakings being a director of the Adelaide Fruit and Produce Exchange Ltd., a director of Producers' Cold Stores Ltd. He was also chairman of the S.A. Fruit Marketing Association for several seasons; all of which, with his other numerous interests, received the same careful attention.

In his youth he was very fond of cricket; in later years shooting, fishing, and bowls were his recreation.

He left his mark on everything he touched and at the age of sixty he seemed only in his prime. Truly our State has lost a man which it could ill afford to lose, and the fruit trade especially, mourns the loss of "Harry Bishop."

tial and the soil must have a peculiarity which alone belongs to Cherry tree culture. Protective elements are also necessary, and it appears that a combination of these requirements is found only in very small areas. This is a natural protection against over production.

The total exports of Cherries from Adelaide for 1936 was 11,857 half bushels—the half bushel is the unit of measure which the industry adopts —but last year this figure jumped to 19,303.

South Australia consumes almost half the total yield of Cherries, and the export market is confined chiefly to Western Australia and Victoria.

This year's crop, which is being gathered at the present time, is a medium one.

Seasonal conditions have not been of the best, and the Cherry crop, along with other crops, has been affected, although not to any big extent. Experienced orchardists say that the Cherry tree has a peculiar habit of curtailing its output every third year. —"The Mail."

SOUTH AUSTRALIA

Mid-Murray Notes

DRIED VINE FRUIT CROPS SATISFACTORY — APRICOTS LIGHT — DISCUSSION ON MANURIAL PRACTICES — VALUE OF COVER CROPS — LURE POTS RECOMMENDED FOR DETERMINING SPRAYING DATES FOR CODLING MOTH — THE PROBLEM OF CHLOROSIS — FIELD DAYS AT BERRI — CURE FOR CITRUS MOTH LEAF — VINE MANURIAL TRIALS — VALUE OF ORGANIC MATTER COMBINED WITH ARTIFICIAL FERTILISER — NITROGEN ESSENTIAL IN SOIL FOR GROWTH OF CITRUS.

(By Our Correspondent.)

DURING THE PAST WEEK we have had one of our old heat waves, when the thermometer ranged well over the century mark for long enough to send all the world and his wife and children down to the River during the week-end. With a good honest spell of dry weather, fungoid diseases do not have a chance to become troublesome, and there is gladness in the heart of vine growers and tree fruit growers alike.

All varieties of vines are looking extremely well.

Currants have developed rapidly after cincturing, holding their crop.

Sultanas are showing some very nice crops, although complaints have come in from some quarters of indifferent setting. Extremes in temperature during the setting period sometimes lead to bad setting. Intensely hot weather seems to have the effect of inducing the leaves to transpire more moisture than can be taken up by the vine roots, and a certain quantity of the fine berry stems have to go without moisture and fall off.

Growers, however, are often mislead by the appearance of bunches of Sultanas immediately after setting, not taking into account the development which takes place before the fruit is matured.

From reports gathered in this settlement and from my own observations I should judge the Sultana crop to be at least 80 per cent. of last year's crop on present showing.

No sign of Black Spot or Oidium has been in evidence, and only a slight Erinose development.

Gordos have come out with a much better looking crop than that of last year, and are showing extremely large branches.

Apricot Crop Light.

Apricots have not improved since last month's report, and must be taken as light. The reason for the light crop has been variously ascribed to many causes, among which are the following:—Shot Hole, a frosty snap before flowering, a dryness of soil when bud development was in progress at the latter part of last season. This latter cause, combined with the weakening effect of having produced a big crop, seems to me to be the main cause. There is a limit beyond which the tree cannot exert itself, and after having produced a leaf crop it needs plant foods and careful nursing, paying particular care to the moisture requirements when developing next year's fruiting buds.

One successful Apricot grower of the Lyrup Irrigation Area (Mr. "Alby" Wright) has for years given his trees a dressing of sulphate of ammonia **after the fruit has been picked** but omitted to do so last year, and his crop is the lightest he has ever had. Mr. Wright uses the logical argument that "Just as a man wants a good feed after a hard day's work as well as before it, so do the trees need a pick-me-up after a hard year's work."

The practice of giving trees and vines a dressing of sulphate of ammonia after the crop has been picked is receiving a good deal of attention by our research workers in recent years, and who are expressing the opinion that this practice leads to a store of accumulated nitrates in the plant, and it is upon these stored nitrates that a great deal of the plant fertility depends. The general practice among growers in these parts is to apply this fertiliser just before bud burst in the belief that most of the buds for the next year's crop have been well developed in the Autumn; but the theory that the plant stores these applied nitrates within itself which become more readily available in early Spring is one we shall have to adapt ourselves to.

There is so much to learn concerning the unseen action of the soil elements on plant life that it does not pay to become dogmatic about any of our present practices, for they may be upset by subsequent research work.

Furthermore, each blocker has to be something of an individualist, because of the many variations in soil types. One man may get satisfactory results from the use of artificial manures alone, whereas another man following **the unseen action of the soil elements** the same course of action will get unsatisfactory results. A case in point can be instanced by that of Mr. Don Bruce, of Renmark, who raised his returns from one ton per acre to nearly 3 tons per acre with the use of **artificial fertilisers only**, yet on my own holding I obtained some response from artificial fertilisers, but not to the extent of Mr. Bruce's efforts. It was not until I followed rigidly the practice of planting a yearly

Cover Crop of Legumes

that a marked increase in returns came about.

Cover crops seemed to neutralise the tendency of my soils to become chemicalised, which tendency has not yet developed on Mr. Bruce's soil. Mr. Bruce used a complete range of plant foods—sulphate of ammonia, superphosphate and potash, and would probably be prepared to argue that that is all which is necessary to increase production, whereas I would be equally emphatic about the beneficial effect of cover crops. So here we have two instances of increased crops brought about by different treatment, but the ultimate result is the same, owing to different soil conditions.

Demonstrating Australian dried fruits in one of London's largest department stores. During ten days 18,185 customers were attended to by six demonstrators and 17,670 tasting samples were distributed. Sound films were also seen by 25,300 people.

The Pear growers of Renmark are keenly interested in timing their sprayings to coincide with the movements of the moths. The over-wintering brood hatched out when the first burst of warm weather came in the Spring, and that happened about October 17. The blossom petals were mostly off by the 10th or 12th of October, and spraying commenced generally on the 10th and was followed by a second one from ten to fourteen days later. In most cases this coincided with the time of emergence of young grubs, and very few affected Pears can be seen on the trees at present where this fruit is grown in commercial quantities. A second brood of moths was on the wing about November 7, and growers were advised of the fact so that the timing of the third spray would be effective. I do not know whether experiments have yet been carried out in other centres to ascertain whether moth flights occur simultaneously throughout a given area or whether they vary from one orchard to another. My own observations carried out over two seasons leads one to believe that there is **a distinct variation in dates**

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of moth emergence in different orchards.

This is a point which should be cleared up, otherwise there may be some anomalous conclusions to account for. Having regard for the importance of timing the sprays according to the flight of moths it would be of great value to all concerned if each individual Pear grower would put up a few lure pots and make observations twice a week and when a brood is suspected I find it necessary to make a daily inspection to ascertain the exact date of the peak period.

Considering that the grub hatches out in from 5 to 10 days in Summer weather, it seems imperative to make a close observation of moth flights, otherwise the timing of sprays may become ineffective.

Pear growers in this district have seldom seen Black Spot on Duchess (or Williams, as they are called in Victoria), and wondered what condition caused the browning of leaves and premature leaf fall last Autumn on occasional trees. They are now wondering why some trees are loaded with fruit and others are almost bare. The quantity of fruit on most trees can be ascribed to the degree of infection sustained by individual trees late last season. So great is the average Pear grower's faith in the curative effect of our dry climate that no corrective spraying was given to the affected trees, and so far their faith has been justified for no sign of Black Spot has shown itself, and the Pear crop is well above the average.

The Problem of Chlorosis.

There is hardly a Pear orchard which has not a few trees affected by chlorosis (or yellowing of the leaves which affects the tree to such an extent that the crop gradually diminishes, and the tree eventually dies).

Chlorosis is not a disease, but appears to be brought about by a soil condition. In the case of Renmark soils with a limestone marl subsoil, Chlorosis appears to be brought about by the heavy lime factor accentuating the deficiency of iron in the soil.

The application of **sulphate of iron** has given satisfactory results with Apricot trees in the same kind of soil, but as the sulphate is quickly transformed into oxide in a soil with a dominating lime factor it has yet to be determined what time of the year will give the best results.

Iron sulphate applied to Pear trees 3 weeks ago have not yet shown much improvement when applying this element to the soil recently some found its way on the foliage, which showed a marked improvement in a few days.

Following the theory that iron may be absorbed by the leaves, a five per cent. solution was mixed up and sprayed on the leaves of the whole tree which has led to promising results. It is as yet too early to make any definite statement on the result of this spray, but from a layman's point of view it would appear a much easier way to apply iron to the tree through the leaves than by application to the soil, which the tree has difficulty in taking up by means of its root system.

The success of zinc oxide spray application for the cure of Mottle Leaf in citrus trees may find some parallel treatment in supplying a soil deficiency for deciduous trees. Who knows?

The Third Irrigation

commenced on Monday, November 21, and after the hot weather and high winds experienced lately the vines and trees will be glad of a drink. In places the vines are showing the effect of dryness in the soil, by picking up their leaves and asking for moisture. Up to the present the weather has been normal, and by that I mean a long succession of dry, warm days. We may get a week of temperatures around the century mark, and this is followed by cool southerlies without rain, which allows us "breathing space" to prepare for the next burst of heat. It is to be hoped that we do not get burning heat waves nor damaging thunderstorms to spoil the nice crop of vine fruit now showing.

"Nemo."

Renmark, November 25, 1938.

A VERY successful Field Day was held at the Berri Experimental Orchard yesterday, with an attendance of about 120 growers from all parts of the Mid-Murray Irrigation Areas. Government officials who attended were Chief Horticulturist, Mr. A. G. Strickland, Mr. W. J. Spafford, Director of Agriculture, Mr. J. B. Murdoch, member of Advisory Board of Agriculture, Mr. A. C. Pritchard, General Secretary to Agricultural Bureau, Mr. F. Arndt, Horticultural Advisor for Berri District, Mr. Grasby, Horticultural Advisor, Waikerie District.

With a few preparatory words from the Director of Agriculture and Mr. J. B. Murdoch apologising for the absence of the Minister of Agriculture, Mr. P. H. Blesing. The assembly were led through the orchard by the manager, Mr. O. E. Halliday. Commencing with the pruning trials of various vine varieties, growers were taken to the citrus cincturing trials, citrus stock trials, citrus manurial trials.

A demonstration was given by the orchard employees in the manufacture of concrete posts. Trellis posts have become so expensive in recent years

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Previous experience had convinced me that to be really efficient a grubbing machine should have ample power and ropes that will meet the heavy demands required of them. I found that shovel and axe work is very costly either by itself or in conjunction with a machine. The machine that offered these features with a host of others, was **THE "MONKEY" GRUBBER.**

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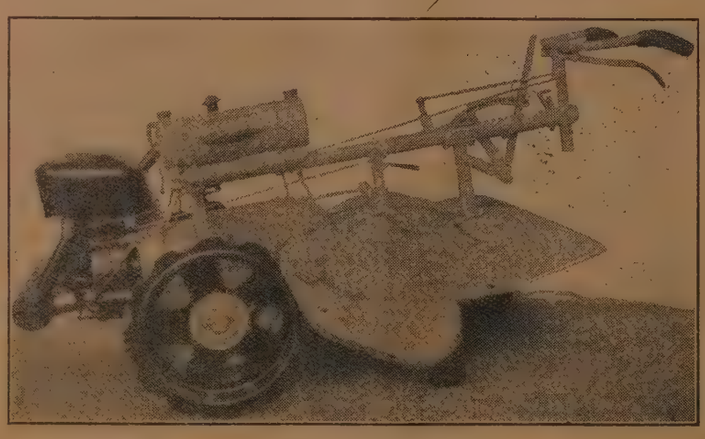

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I am more positive than ever now that I did the right thing in buying my hoe, and that for all classes of land tillage, the Rotary Hoe will never be excelled.

I might point out that the picture of my orchard in the "Government Gazette," is my young orchard only 7 years old, and had no tillage with any implement, only the Rotary Hoe, during the past 3 years, and the growth speaks for the wonderful work the hoe is doing.

I remain, your more than satisfied client,

(Sgd.) MILTON JAMIESON.

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that it may be a matter of only a few years when growers will have to turn their attention to the possibility of substituting wooden trellis posts with those made of concrete. Mr. Halliday estimated that the cost of the concrete posts would be approximately 2/4 each, but that they would be everlasting. The demonstration proved extremely interesting.

An unusual diversion was created by a visit to Mr. Jungfer's citrus orchard to inspect the experiment carried out under the direction of Mr. A. G. Strickland with **the spraying of zinc oxide as a cure for citrus Mottle Leaf.**

As this was the first experiment of its kind carried out in the Commonwealth, the results have led to far-reaching effects wherever citrus trees are grown.

In 1935 Mr. Jungfer approached Mr. Strickland for a remedy for his young 7-year-old trees suffering from Mottle Leaf. The trees had received excellent cultural treatment but failed to respond and Mr. Jungfer contemplated grubbing out the lot. Mr. Strickland advised spraying with zinc sulphate and hydrated lime, which was afterwards replaced by zinc oxide at a strength of 3 lbs. per 100 gals. of water.

As a check to the treatment, certain trees were left unsprayed and the difference between the sprayed and unsprayed trees has to be seen to be appreciated. The unsprayed trees are dwarfed, hungry looking, yellow leaved, things, while the sprayed trees are dark green and bursting with life and vigor, a fine sight to behold. Yet all trees have received the same manurial and cultural treatment.

Some of the trees have missed a yearly treatment with zinc oxide, and there is a noted tendency for these to revert back to the mottled condition, but wherever a yearly spraying has been given the trees are all that could be desired. In tabulating the comparative returns from the trees it was noted that the sprayed trees averaged 65½ lbs. of fruit and the unsprayed trees averaged 46½. **But the greatest significance lies in the fact that the unsprayed trees showed 24.3 per cent. of rejected fruit (small and blemished), whereas the sprayed trees showed only 1.40 per cent. of rejects in 1937 and in 1938 unsprayed trees showed 37 per cent. of rejects and the sprayed trees only 3 per cent.**

On returning to the orchard, Mr. Halliday took growers to the vine manurial trials, the result of which are very perplexing and inconclusive, owing to the fact that this trial was laid out on an old Lucerne patch and the result of arificial manure is now just beginning to be evident after 11 years of experimenting. It is anticipated that the second 11 years may show something more definite, that is, when the effect of organic matter left by the Lucerne roots, etc., becomes exhausted.

The whole assembly were guests of the Department of Agriculture and were treated to tea in the big Fig packing shed situated on the orchard.

After tea Mr. A. G. Strickland gave an address on "Fertilising the Orchard and Vineyard." In the course of his remarks the speaker said that **manuring by means of artificial fertilisers was not by any means a simple matter,** and it was generally believed that nitrogen promoted growth, phosphate helped fruit bud development, and potash gave quality. The main aid to productivity, however, appears to be bound up in the amount of organic matter which is applied to the soil. **With any artificial manurial programme which may be adopted it must be accompanied by a regular system of application of organic matter.**

Undoubtedly, the pride of place in this respect must be given to stable manure, but as this cannot be obtained in large enough quantities to be effective, the next best thing is to grow **leguminous cover crops.**

If this cannot be achieved then some non-leguminous crops such as Rye, Barley, etc., could be used.

Mr. Strickland dealt with mineral deficiencies in the course of his address and said that a very minute mineral deficiency could materially affect plants, and **as little as 2 or 3 oz. per acre of a deficient mineral could make all the difference between thrifty and unthrifty plants.** An over supply of one plant food may accentuate the deficiency of another, as is sometimes instanced by an over supply of nitrogen causing a deficiency of potash, which leads to leaf scorch.

To sum up Mr. Strickland's remarks, the writer judged that it was beyond argument that nitrogen had proved of undoubted value to citrus growers. That organic matter must be kept up in the soil if the full benefits of any artificial fertilisers is to be obtained. That a balance of plant foods must be aimed at in any manurial programme.

A hearty vote of thanks was moved by Mr. O. Weste to Mr. Strickland and all who had contributed to the day's programme, and suitably seconded by Mr. P. Ingerson. The President of the Berri Agricultural Bureau, Mr. Chiltern, thanked all members for their attendance and hoped for another successful fixture next year.

The South Australian Fruit Marketing Association Inc.

THE monthly meeting of the Executive of the South Australian Fruit Marketing Association Inc. was held at Adelaide on November 25.

There were present Messrs. J. B. Randell (Chairman), M. G. Basey, A. O. Petersen, R. H. A. Lewis, R. O. Knappstein, H. N. Wicks, R. G. Hannaford, S M. James, F. F. Redden, A. R. Willsmore, A. Brealey, G Quinn, P. R. B. Searcy, H. M. Charlick, and the Secretary (Mr. E. W. Mills).

Letters from Australian Apple and Pear Council:—

(1) Expressing appreciation for the work done by the State Committee in regard to Apple and Pear publicity.

(2) Advising that 800 copies of the report of the annual conference were being forwarded and asking that a copy should be sent out to all growers. The Secretary advised that this had been done.

Membership: An application for membership was received from Messrs. H. & K. Jacobs, Cherry Gardens. Accepted.

Australian Markets Committee: Letter dated November 17 from the Apple and Pear Council enclosing minutes of meeting of the Australian Markets Committee, held at Sydney on October 12.

Mr. J. B. Randell also read a letter from the Secretary of the Apple and Pear Council; it was agreed that a committee be formed consisting of seven members, four representing the S.A. Fruit Marketing Association, and three representing the S.A. Fruitgrowers' and Market Gardeners' Association, and Messrs. J. B. Randell, F. F. Redden, A. O. Petersen and H. N. Wicks were appointed members of the Committee to represent the S.A.F.M.A.

State Joint Transport Committee: Mr. H. M. Charlick was unanimously appointed as the Association's representative on the State Joint Transport Committee in succession to the late Mr. H. J. Bishop.

National Insurance: Mr. H. N. Wicks proposed and Mr. F. F. Redden seconded the following resolution: "That this Association co-operate with the S.A. Fruitgrowers' and Market Gardeners' Association in their efforts to secure exemption for the primary producers from the operations of the National Insurance scheme." Carried.

Pears: Mr. A. Brealey stated that in his district growers were definitely opposed to the elimination from the export list after the 1939 season of the following varieties: — W.B.C., Lemon Bergamot, Howell, Keiffer, and he urged that steps should be taken to retain the above varieties.

An amendment was moved by Mr. A. O. Petersen, seconded by Mr. M. G. Basey: "That we should only ask for W.B.C. and Lemon Bergamot to be retained."

The amendment was carried, and the Secretary was instructed to write the Apple and Pear Council asking that these two varieties be retained on the export list, or alternatively, that a longer period be allowed, say three years, to enable growers to work over the trees.

December Meeting: It was resolved that the December meeting be held on Wednesday, December 21.

Research Sub-Committee Report : At the meeting of the Research Sub-Committee, Messrs. M. G. Basey, H. N. Wicks, A. O. Petersen, R. O. Knappstein, reported on crop prospects in their districts for the coming season.

A discussion took place in regard to Codling Moth and the application of sprays for the control of Codling Moth.

Orient Cup: Mr. Basey stated that he considered that fruit entered for the Orient Cup competition should be the bona fide property of a grower, and he also suggested that fruit held in South Australia should be judged at the same time as the fruit in London.

It was agreed to write the Royal Agricultural Society on these points and Mr. H. N. Wicks undertook to have the matter discussed by the Fruit Section of the Royal Agricultural Society.

Australian Markets Committee: Correspondence was received from the Apple and Pear Council in reference to the formation of a State Committee of the Australian Markets Committee, and it was agreed to recommend to the Executive Committee that a Committee be formed in this State consisting of representatives of this Asociation and the S.A. Fruitgrowers' and Market Gardeners' Association.

Late H. J. Bishop.

On the motion of Mr. Redden, it was unanimously agreed to record in the minutes an expression of appreciation of the valuable services rendered to the Association, the Apple and Pear Freight Committee and the industry generally, by the late H. J. Bishop, who was President of the Association from its inception until July last, when he was compelled to resign owing to ill-health. He was also throughout his term of office one of the delegates to the Australian Apple and Pear Council and the representative on the State Joint Transport Committee.

The Secretary reported that a letter of condolence had been sent to Mrs. Bishop, and letters were received from the Secretary of the Oversea Shipping Representatives' Association, and the Secretary of the Apple and Pear Council, expressing regret at the passing of the late Mr. H. J. Bishop and extending sympathy to the Committee in the loss sustained.

Messrs. J. B. Randell and H. N. Wicks reported that in regard to the suggestion made some time ago for a presentation to Mr. Bishop, they had had several consultations with the members of Mr. Bishop's family, but it had proved a difficult matter to decide on a suitable form of presentation. A decision, however, had been reached, but unfortunately Mr. Bishop's death intervened before the idea could be carried into effect.

It was now suggested that an enlarged photograph of Mr. Bishop should be obtained with a suitable inscribed tablet and permission be obtained for this to be hung in the Board Room of the Adelaide Fruit and Produce Exchange.

This suggestion was unanimously approved and Mr. Randell and Mr. Wicks were asked to make the necessary arrangements.

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VICTORIAN NEWS AND NOTES

Victorian Fruit Crop Prospects

APPLES PATCHY ∴ PEARS GOOD

MR. J. M. WARD, Superintendent of Horticulture, has received reports from district officers as follows:—

In the **Geelong** district, Mr. H. L. Hatfield reports that Apples have held on fairly well: there is a good showing of Granny Smiths and Reinnettes, while Stewarts and Gravensteins are not quite so good. Jonathans, Romes and Dunns are only fair. Pears thinned out slightly heavier than expected, and Peaches and Plums are quite good. The Cherries have been of excellent quality, although the crop was not a full one.

Gravensteins and Statesman have set well at **Bacchus Marsh**, but a late frost further reduced crops of Stewarts, Yates and Granny Smiths. Romes and London Pippins failed to set, and Jonathans are very poor. Pears are showing an excellent yield as also are Peaches.

In the **Portland** area, Stewarts look excellent, while Jons., Dels. and Grav. are also quite good. Dunns are poor.

Around **Werribee** about half crops are expected of Apricots and Apples

Around **Colac** and **Forrest**, Jonathan and Rome Apples are only fair, but Delicious are setting well. The Pear crop is excellent, W.B.C., Packhams and B. Bosc all showing 100 per cent.

Mr. A. E. Bullock reports on the **Wangaratta** district. This district is showing a particularly light crop in all varieties except at Cheshunt, where Jonathans are fairly good and Baarmutha, where Granny Smith and Dunns are expected to yield a medium crop.

At **Bendigo, Castlemaine,** and **Harcourt**, unless heavy rain falls before Christmas, very little fruit will be fit for export, reports Mr. J. Thomlinson. Plums are showing about 50 per cent. crop, but Apples and Pears average about 25 per cent., Londons and Rome Beauties being particularly light. W.B.C. Pears are the best so far, but even they only show about a 40 per cent crop.

Mr. C. W. Wills, **Horsham** district, reports that dry weather conditions are affecting crops. At **Quantong** and **Horsham** a fairly good crop of Granny Smiths is expected. Gravensteins are also medium, while Jons. and Romes are just fair. The poorest of all are Cleos. and Dunns. All Pears have set fairly well—average set about 75 per cent. Apricots are very patchy and Peaches are now good, but dry weather will affect yield. Plums, Almonds and Prunes are also patchy.

At **Pomonal**, Jonathans and Romes are extremely light, while Cleos., Dunns and Grannies are medium to good. Pears have set quite well, and Cherries picked well, but are very small. Crops are very heavy at **Amphitheatre**, but at **Elmhurst**, they are very patchy. Cleos., Jonathans, Dunns, Grannies, Romes, and Five Crowns in these two areas average about 85 per cent. crops. Pears here are not quite so good, averaging about 75 per cent.

Mr. W. L. Lawrey states that in **Shepparton** export Pears are good, whilst Apples are only about 60 per cent. Apricots are down to some extent, but canning Peaches are good. The season is favorable for codling moth, but not for fungus diseases.

On the **Mornington Peninsula**, Mr. Wadeson reports full crops of Grannies, Yates, Statesman, good crops of Cleos., Grav., Sturmer and Stewarts, medium crops of Jon., Demo. and Del., and poor crops of Londons and Romes. As regards W.B.C. Pears, also Packhams, W. Nelis, B. Bosc. and B. Anjou, although heavy shedding occurred, the crop of these varieties should not lie much below normal. Winter Cole, Josephine, Keiffer and Howell are also showing a fair crop. Cherries are good, also Jap. Plums—other varieties of Plums not so good—and Apricots are poor.

At **Kyabram**, Apricots range from Moorpark 20 per cent. crop to Oullin's and Trevatt 70 per cent. Plums are good, also Prunes, Peaches in all varieties are expected to have an excellent crop. Full crop of Jos. Pears is anticipated, while Packhams, W.B.C., and B. Boscs are heavy. W. Nelis is not so good. This report came from Mr. F. J. Bullock, who states that the very heavy shedding in the W.B.C.'s has greatly reduced the crop, this also happened with the Packhams.

Mr. W. A. Rolfe reports regarding the **Doncaster** area. A normally good crop of Pears is expected with B. Bosc, Packhams and Jos., and a full crop of Williams, Jonathans are good, but it is doubtful if a lot of the fruit will come up to size owing to the dry season. Stewarts, Statesman, Delicious and Granny Smiths are good, but Londons and Romes very poor. Lemons, Cherries and Peaches are excellent, whilst Apricots, Plums and berry fruits are just fair.

In the **Red Cliffs** and **Mildura** districts (Mr. R. Roberts reporting), Pears are good, as also are Almonds, Apricots, Peaches and Prunes. Vine fruits appear to be good, but not up to last seasons heavy crop. Fungus diseases so far are nil. Citrus fruits are also anticipated to be from fair to good. Weather conditions favorable so far for up to average crops. Navel blossoming is slightly patchy in parts. In all districts Valencias apparently are setting heavily. At Red Cliffs recovery from red scale and seepage should produce heavier crops from now on.

Mr. F. Greatorex reports that in the **Burwood** district, Jonathans, Granny Smiths, Lord Nelson, Alfriston, and Gravensteins are fairly good, with Stewarts, Delicious, Five Crowns and Statesman fair. Romes are poor as they are affected with thrips. All Pears are fair except Jos., which are very poor. A full crop of Peaches is expected.

In the **Rochester** district, Mr. J. K. Muir states that the Pear crop is estimated at 75 per cent. Packhams, W. Cole, Nelis and Bosc appear to be up to last year, while Jos. and Williams are not quite so good. Very few Apples are grown in this district, but Romes and Dunns are very poor. As regards Apricots it is very doubtful if the district crop will reach 37 per cent. of last year's crop. Pullar's Peaches are expected to be 100 per cent., and the prospect for all other varieties is very promising. Owing to the heavy shedding, the Prune crop will be about 45 per cent. Citrus fruit, vine fruit, and Almonds all appear to be good.

Mr. G. M. Fletcher, reporting on the **Diamond Creek** district, states at Bulla and Keilor, Apricots are patchy. At **Panton Hills**, Apples are also patchy. Statesman, Granny Smith, Dunns and Rokewood are good, Stewarts are only fair, but Romes, Jonathans, Delicious, Yates and Graven-

(Continued on page 24.)

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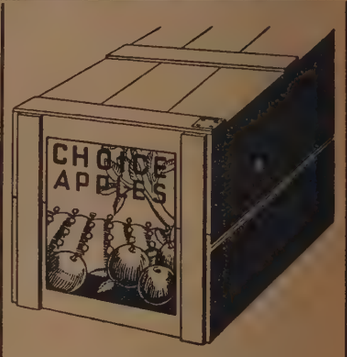

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THE MARKET GROWER

OFFICIAL ORGAN OF VEGETABLE GROWERS' SOCIETY OF VICTORIA. THE KOONDROOK & BARHAM TOMATO GROWERS ASSOCIATION AND THE SOUTH AUSTRALIAN FRUITGROWERS' AND MARKET GARDENERS' ASSOCIATION.

Vegetable Culture

GROWERS PROTEST AGAINST HAVING A MARKET ON MONDAY BECAUSE OF SUNDAY WORK — POLL FOR ONION MARKETING BOARD ON DECEMBER 2 — BLOCKAGE IN VICTORIA MARKET BY TRANSPORTS — IRRIGATION AND DRAINAGE.

By Our Correspondent.

Why Sunday Work?

AT the monthly meeting of the Victorian Vegetable Growers' Committee, much concern, indignation, and alarm was expressed by members of the committee at the amount of Sunday work which was being carried on in several districts, members stating that they had purposely driven round on Sundays to see what was going on, and found it was not uncommon to see the employer and some of his employees hard at work putting up a load of vegetables for Monday's market, also on the Sunday afternoon many men seemed to carry on the same as a week day, ploughing and harrowing, hoeing and weeding crops.

The Vegetable Growers' Association twelve months ago anticipated that the growth of Monday's market would be likely to encourage men to gather their produce on Sundays, and arranged a deputation to the Markets Superintendent, asking that the market be closed on Mondays, as it has been for many years past, but the request was not granted, and **to-day we find more and more work being done on Sunday, to allow growers to attend the Monday market.**

It was generally felt that this is an alarming state of affairs, quite apart from any religious point of view, for this one day in seven when we can lay aside our ploughs and pruning hooks is a necessity to man and if allowed to be broken down to any extent, is going to make the lot of the man on the land harder and more laborious. It seems hard to understand why growers will do these things when their brothers are clamouring for a forty-hour week—and in many cases getting it—while growers go on working all sorts of hours, and, eventually producing a great deal of produce which they cannot sell profitably. Efforts are to be made by the V.G.A. to check this practice and members are asked not to gather any produce whatever on Sunday.

Onion Marketing Board.

The poll to decide as to whether the Onion Marketing Board shall continue to operate or be wound up, is to be taken on December 2, 1938, and every Onion grower who last year planted two acres or more of Onions is eligible to be on the roll, and if there will receive a ballot paper through the post, which must be returned before December 2, 1938. Growers have now had experience of this Board for nearly three years, and must by now have decided whether there is any benefit in having their produce controlled by the Board, or whether they can obtain better prices by marketing their own produce.

The Vegetable Growers' Association has not attempted to influence a block vote, for they realise it is entirely a matter for each individual grower, there is no question of party or politics, but just a decision as to the most efficient way of selling their goods.

Blocking of right of ways in between the sheds of the Queen Victoria Market by huge transport waggons is still giving growers some trouble. This trouble mostly occurs in the Pea season, when transports pick up the produce of Southern European growers and on arriving at the market sell in between the sheds, stand for considerable times in one place, and so prevent any other grower passing up the market—for the width of the transport does not allow of any other vehicle passing. This is a source of great annoyance to members of the Vegetable Growers' Association, for on reaching the market every grower is eager to get into his stand, but when a transport blocks the track, a traffic jam is caused, which often takes much time to straighten out, and sometimes the market starts before growers can reach their stands.

The Vegetable Growers Association Committee has taken the matter in hand, and will watch for the offenders and take the necessary steps to have the matter rectified.

Drought conditions still prevail throughout the vegetable growing districts, and the great majority of produce which is reaching the market has been produced by the aid of irrigation, and although except in exceptionally dry times irrigation is not very profitable, nevertheless irrigation allows a man to keep his business going. When the rain does fall, much attention must be given to working the land which is being watered, for if allowed to get hard on top and form a crust the crop will rapidly deteriorate, so the

Hoe or Light Scarifier

must be constantly kept going. One good watering and one working is better than two waterings; great care must be taken not to apply water in such quantities that the land will run together; land which is at all inclined to be sticky should not be walked on while it is still wet.

Dry weather brings wet weather, and although we are passing through drought conditions, there is nothing surer than that we will later on get the rain which we have missed now, and, growers are well advised to look to their drainage systems, and have their headlands well out ready for the rain, which must eventually come. There is no better time to carry out drainage works than when the land is reasonably dry, for if attempted when the land is really wet, the sides of the trench fall in, and considerable trouble is experienced, but after having dug the trench which is to take the pipe, if some water is allowed to run over it a nice even lay for the pipes will be made, and no truer level can be given than by water; it shows up any low places which can be filled in, thus giving a perfect pipe line.

Drains, to be effective on land which at times is heavily watered, should not be more than a chain apart.

BEAN MOSAIC.

BEAN MOSAIC is one of the most common Bean diseases in N.S. Wales, and is caused by a virus which occurs in the sap of diseased plants and is spread throughout a crop by means of aphids.

The disease is readily identified by such characteristic features as mottling of the foliage, leaf distortions and stunting of the plants. Observations have shown that Bean Mosaic has generally been most prevalent during late Spring and early Summer, and that the time of planting materially influences the severity of this disease. Mosaic, unlike most bacterial and fungous diseases, is not carried over from crop to crop in the soil. Infection is carried over from season to season in the seed, the infected seed being indistinguishable from the disease-free seed. A few infected plants from diseased seed may be the means of infecting a whole crop.

As no method of control is known, growers should pay particular attention to securing disease-free seed.

Crops intended for seed production should be gone through carefully several times until flowering and all plants showing mosaic or other diseases should be removed and burned. As mosaic usually spreads most rapidly in the late Spring and early Summer, seed growers are advised to plant their crops as late as possible to escape infection.

None of the locally cultivated varieties of dwarf French Beans shows any outstanding resistance, but the pole varieties, Epicure and Kentucky Wonder, are fairly resistant.

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THE ONION INDUSTRY.

Operations of Victorian Onion Board.

A VERY LARGE MEETING was held by the Onion industry at the Cororooke (Vic.) Hall; the Chairman of the Victorian Onion Board (Mr. T. Carmody), Mr. E. O'Toole (Warrnambool) and Mr. S. Parer (Government nominee) were present.

Mr. Carmody traversed the activities of the Board during its control of marketing, particularly referring to last season's operations. He stated that the average selling price of Onions prior to April 7, 1938, was £2/15/6 a ton. The sum realised for 11,000 tons was £30,800. The average selling price of 17,070 tons, which realised £122,440, since April 7, 1938, was £7/3/6 per ton. The Board's opening selling price on April 4, 1938, was £5/5/- per ton. Price increases through the season went to £12, yet the benefit of all increases to the growers on their total tonnage delivered, 37,130 tons, only amounted to 19/3 per ton. Had the Board exercised control at the beginning of the season, and commenced with a selling price of at least £7 per ton, a further sum of £47,200 would have been realised to April 7, 1938.

A former member of the Board, Mr. R. T. McCarthy, criticised Mr. Hogan (Minister for Agriculture), whom, he stated, had let the growers down. Twelve months ago growers had been told that 95 per cent. of the Onions would have to be promised to the Board before it would function. Although the growers had never been told of the position, they had heard that only 70 or 80 per cent. had been secured.

Mr. Carmody said it was only fair to the Minister to state that the bank had reversed its decision regarding the percentage and had agreed to accept a lower figure to save the industry from collapse. If the Board functioned during the coming season the Commonwealth Bank would be asked to make available sufficient to permit the following scale of advances to growers based on the estimated crop:—20,000-25,000 tons, £5 per ton to growers; 25,000-30,000 tons, £4 per ton; 30,000-35,000 tons, £3/10/-; 35,000-40,000 tons, £3 per ton.

The poll as to whether the Board will be dissolved will take place on December 2.

N.Z. POTATO BAN ATTACKED.

Sir Frederick Stewart, M.H.R., in an address before the U.A.P. Convention at Sydney, on November 10, attacked the ban placed by Australia on N.Z. Potatoes. He characterised the embargo as narrow parochialism, stating it was a Customs embargo with less justification than it had before.

[The Onion Board is to continue. See details on another page.]

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(Continued from page 22.)

stein are poor. At **Templestowe**, Stewarts, Statesman and Grannies are fairly good, but Jonathans, Romes, Five Crowns and Delicious are poor. Peaches are excellent in this district. Cherries and Lemons are good, and Plums patchy. Pears are not very good, some trees being thinned excessively. Josephines, Williams, Howells and W. Nelis are fairly good, but Bosc, Packhams and others are not so good.

At **Diamond Creek** Pears are about the same as Templestowe, except a better setting of Packhams is expected, and Keiffers are good. Many Plum trees did not bloom, and the crop is therefore very patchy.

Mr. D. D. Brown reports an excellent setting of vine fruits at **Swan Hill.** Peaches are also excellent, whilst Apricots and Prunes are patchy. Brandis Almonds are a failure, but other varieties are medium. Plums and Prunes are fairly good. Navel Oranges are patchy, and Lemons and Grapefruit are heavy. Valencias are just medium.

ORCHARDISTS' AND FRUIT COOL STORES ASSOCIATION.

The quarterly meeting of the Orchardists' and Fruit Cool Stores Association of Victoria was held at the C.T.A., Melbourne, on November 28, Mr. F. Petty presiding over a large attendance.

The Secretary (Mr. H. J. Noonan) reported that the Minister for Agriculture had favorably received the deputation which requested that the sale of large fruit by count be made compulsory. Messrs. L. G. Cole and W. P. Mair said their visit to Canberra regarding the Export Control Bill had been helpful in securing some desired amendments.

Mr. P. J. Clarey, M.L.C., and Mr. Kyle (Storemen and Packers' Union) attended, stating it was desired that the rates and conditions applying to the packing of export fruit should also apply to packing for interstate trade. A Committee was appointed to go into matters further.

It was decided to accept the report of the committee which conferred with the V.F.M.A. Executive, and to [illegible] two delegates to V.F.M.A. meetings; the President and Senior Vice-President were appointed.

A valuable address on mould control in cool stores was given by Mr. T. O. Mitchell. Crop forecasts indicated Apples patchy: Jon. fair in several districts, late varieties light. Pears good.

The Secretary reported £70 was in sight for Black Spot research on Pears. About £60 was in hand on the nucleus of a fund to contest the A.W.U. log served on Harcourt fruitgrowers.

GOULBURN VALLEY NEWS AND NOTES.

Problems of Water Shortage :: Trees Splendid at Present :: Codling Moth Very Active :: Big Acreage Under Tomatoes at Shepparton.

(By Our Correspondent)

THE HOT DRY WEATHER conditions still continue in the Goulburn Valley, and fruitgrowers and all primary producers are passing through an extremely anxious and difficult time.

The water shortage for irrigation is becoming acute. Many growers with small water rights have already used up their allotted supplies, and cannot get any more water for their crops. All growers have been informed by the Water Commission that they can only get 85 per cent. of their water rights, and 40 per cent. of these rights were used in the first irrigation in October and three of the hottest Summer months still in front of us. It seems doubtful (unless rain falls in the meantime) whether there will be any irrigation water available after January to irrigate canning fruit crops of Pears and Peaches, **for the most important watering for these crops is a week or ten days before harvesting.**

If this should happen it would be a calamity to the canning industry of Victoria.

Codling Moth is particularly prevalent this year, and the third spray has just been completed. W.B.C. **Pears** have shed rather heavily during the month, and the crop will be much lighter than last year.

Peaches have also shed a good deal but this is all to the good, as better quality can be expected.

A considerable amount of **intense culture** is being practised this season in an effort to conserve all the moisture possible, and to keep the land from drying out too rapidly after irrigation. Many orchardists have mulched their young trees with straw, and are watering them with a water cart to save water.

There is a big acreage under Tomatoes this year, especially in the Shepparton district, and it is said they are not growing as well as usual owing to the continued hot dry weather. But the orchards at present are looking particularly fresh and green, and have responded marvellously to irrigation and warm temperatures.

Grape vines are looking well and carrying good crops.

BAMAWM.

At the annual meeting of the Bamawm District Fruitgrowers' Association the following officers were elected:—President, Mr. J. M. Sinclair; Vice-Presidents, Messrs. Brooks, Aitkens, Gartside, and Hooker; Honorary Secretary and Treasurer, Mr. P. Glasson.

VICTORIA.

Apple Packing by Children.

Pakenham Upper Wins Victorian Fruit Exporters' Handling Committee's Shield.

THERE was an enjoyable function at the Upper Pakenham Hall on Friday, November 18, when the Victorian Fruit Exporters' Handling Committee's Shield (for best State School Apple Packing Classes) was presented to the Pakenham Upper State School. This handsome shield now becomes the permanent property of this school: it has been at various schools for the past 14 years, where such schools won the privilege of holding it for a year or as long as they could competitively keep it. But Pakenham Upper has won it six times—the last five years being in succession. The chairman of the Fruit Exporters' Handling Committee (Mr. J. B. Mills) announced that a new shield would now be forthcoming so that children attending Departmental Classes would continue to make progress in Apple packing, and have tangible result of their excellence.

The Supt. of Horticulture (Mr. J. M. Ward), in congratulating the Pakenham Upper School on its continued success, suggested that the school be enlarged so as to hold the many shields and trophies won in this way: he then handed the shield to the head master, Mr. Boyd.

In responding, Mr. Boyd paid a tribute to his predecessor, Mr. Jobling, who had greatly encouraged the children in this good work.

Mr. J. B. Mills, speaking to the children, told them of the importance of their work now and in the future. To the general audience, Mr. Mills said that the making known of the new facts now known regarding the medicinal and food value of the Apple would largely increase the sale of this the king of fruits.

Mr. W. H. Harris, Assistant Fruit-packing Instructor, who conducts the children's fruit classes, was presented with a token of appreciation, and suitably responded.

Mr. Bennett, M.L.A., stated every effort was being made to have Mr. Harris placed on the permanent staff of the Department. (Applause.)

The shield and certificates presented by the Gerrard Wire Tying Co. Pty. Ltd., were handed to the School Committee by Mr. W. L. Gregory.

The chairman of the meeting, Mr. McDonald, thanked all who had assisted, including Mr. I. Woolf for framing certificates won at shows, Mr. W. H. Black, and the school committee and others. There was a splendid programme of entertainment by artists, followed by supper and dancing.

The young people who comprised the successful team were Thelma Black, Melva Blake, Loris Mapleson, Betty Black, Alan Roberts, and Will Shelton. There are several other youngsters in the packing class.

GIPPSLAND FRUIT MARKETING ASSOCIATION.

Central Packing House Advocated.

Pakenham (29/11/38): At the recent annual meeting of the Gippsland Fruit Marketing Association, it was decided to give full consideration to the establishment of a central packing house.

The Association re-elected Mr. J. J. Ahern President, and Mr. W. H. Carne Secretary. The following were elected as district representatives on the executive committee: Messrs. F. Kennedy (Pakenham), W. C. Harvie (Pakenham Upper), W. H. Brown (Beaconsfield Upper), W. J. Robertson (Garfield), R. A. W. Bailey (Narre Warren), L. Thomas (Bunyip) and T. C. Whiteside (Officer).

Mr. K. Weeding, who recently returned from a trip to America, delivered an interesting address on his experiences and showed attractive moving pictures.

Pakenham Upper (23/11/38): Apple crops are patchy. Rokewood and Granny Smith heavy to medium; Jonathan and Yates, medium to light; Gravenstein, medium; Romes and Delicious light to very light. Some showers at the beginning of the month allowed growers to complete cultivation, and trees have not as yet shown any ill effects of the drought, but a good fall is now badly needed to soak the subsoil. Black Spot is conspicuous by its absence.

In the aggregate, it is likely the crop will be 10 per cent. to 15 per cent. less than last year, and approximately 65 per cent. to 70 per cent. of normal crop. Shedding was rather heavy in many orchards, substantially reducing earlier estimates.—W. H. Carne.

YOUNG FARMERS' CLUBS.

Increased Activities.

The annual meeting of the Council of the Victorian Young Farmers' Clubs' Association was held on November 26.

The State Supervisor of Young Farmers (Mr. J. J. Keddie) stated that great activity was being shown and that this was largely due to the co-operation of the Director of Education, who fully realised the significance of well organised clubs. Moreover, right throughout the State, Mr. Keddie said, there was definite evidence of increased interest by both members and adults in club centres.

A sub-committee was formed to investigate the organisation of senior sections in South Australia, with a view to arranging an annual convention of senior sections of young farmers' clubs at the next Royal Show.

It was agreed to hold Shield competitions only between September 1 and March 31. In the past, it was explained, many clubs held their competitions in the Spring, and others in the Autumn. Entries are to close in future on July 31.

The organisation of the 1939 School of Agriculture, to be held at the Melbourne Boys' High School from May 22 to June 2, is well in hand.

Sir Charles Merrett was re-elected President, with Messrs. J. S. Bacon and J. M. Kerr Vice-Presidents. The existing council was re-elected.

"HILLMAN" ORCHARD STRIP PLOW

Double Furrow

A sturdy, strong plow equipped with reversible discs to enable the operator to plow up to, or away from the trees. Operated by a single lever and with nothing to catch branches of trees. To facilitate the movement of the plow around the orchard the discs are movable and lift clear of the ground.

The steering arms are drop forged from the best mild steel and the main wheels are equipped with ball bearings.

Two medium horses can work this machine all day without tiring. A machine may be obtained for a trial at any time.

Further particulars apply . . .

HILLMAN & KEOGH

Implement Manufacturers

Shipley Street, Box Hill, Melbourne, E.11

Anglo-American Trade Agreement

Ottawa Preferences Modified

RETENTION OF APPLE AND PEAR DUTY IN UNITED KINGDOM OF 4/6 PER CWT. DURING THE AUSTRALIAN-NEW ZEALAND EXPORT SEASON.

DUTIES UNCHANGED ON RAISINS, CANNED PEACHES, PEARS AND APRICOTS. NEW SCHEDULES APPLY FROM JANUARY 1, 1939.

THE LONG EXPECTED Anglo-American agreement has now been signed, and is regarded by all concerned as generally satisfactory. This agreement, together with the Canadian-American Trade Treaty, in the opinion of the President of one of the Australian Chambers of Manufactures, marks a good move forward in international trade.

The detailed alterations to existing preferences are:—

Apples: Reduction in the U.K. duty from 4/6 to 3/- cwt. **during the period August 15 to April 15,** but retention of the full duty of 4/6 during the Australian season from April 16 to August 16.

Pears: Reduction in duty from 4/6 to 3/- cwt. from August to January, inclusive, **with retention of full duty of 4/6 during the Australian season.**

Fruits Tinned or Bottled in Syrup.

Apples: Reduction from 3/6 to 2/3 cwt.

Grapefruit: Duty of 15 per cent. removed and free entry substituted.

Fruit Salad: Change from ad valorem rate of 15 per cent. to specific rate 5/6 cwt.

Pineapples: Change from ad valorem duty of 15 per cent. to specific rate 5/- cwt.

Loganberries: Change from ad valorem 15 per cent. to specific rate 4/- cwt.

Honey: Reduction from 7/- to 5/- cwt.

Wheat: Duty of 2/- per quarter removed and free entry substituted.

Sir Earle Page said that Australian Apples and Pears were marketed in the United Kingdom during the period from April 1 to July 1. The reduction during the month specified would assist the marketing of United States fruit and assure the Australian industry of the retention of adequate protection. **The position of Apple producers in the Southern Hemisphere would, in fact, be improved, because the United States Government would draw the attention of American Apple exporters to the desirability of co-operation with Empire Apple exporters and to the desirability of co-operation with Empire fruit organisations to avoid undue fluctuations in supplies and prices.**

Dried and Canned Fruits.

The concessions granted on dried fruits leave the vital Raisin field unaffected, and while dried Nectarines, Apples, etc., from the United States are given concessions, they are not necessarily vital.

Canned fruits are given concessions, but they chiefly comprise varieties not produced in Australia, such as canned Grapefruit and Loganberries. The concessions on fresh fruits, while important, are designed not to interfere with Australian exports, and the cuts on duties will apply to certain months when Australia is not shipping Apples. While the United States is given greater opportunities to export meat products, the interests of Australia and New Zealand seem to be amply protected.

Britain has promised that there will be no increase in canned fruits, Pears, Peaches and Apricots, while the present 15 per cent. duty on Grapefruit will be abolished.

The tariff concessions under the pacts will become effective on January 1, 1939. The agreements will be for three years, and will then continue indefinitely, unless terminated by either Government.

Regarding canned Pineapples, the Minister for Commerce states that the alteration in the form of duty operated in favor of the Empire exporter. Australian export of this fruit had increased this year, but was still only 1 per cent. of the U.K. market and 2 per cent. of the Canadian and New Zealand markets, in all three of which preference was accorded. There is room in these markets for the existing volume of Australian export provided Australian producers can compete with the help of the substantial protection they enjoy.

Agreement of World Consequence.

"The changes in the Empire preferences enjoyed by Australia were concurred in by the Commonwealth Government after the fullest consultation with the Governments of the U.K. and the other Dominions," said Sir Earle Page. "The Government recognised the great influence which would be exercised on world economic affairs by a comprehensive trade agreement between the United Kingdom and the United States of America, and fully realised its responsibility to assist in the conclusion of such an Agreement, provided the vital interests of Australian industries would be preserved. This dual objective has been attained."

Commenting on the Anglo-American Trade Treaty as affecting canned fruits, the Secretary of the Canned Fruits Control Board, Mr. W. J. Adams, stated as follows:—

The fruits under the control of the Commonwealth Canned Fruits Control Board are canned Peaches, Pears, Apricots and Pineapples, but the three first mentioned account for over 90 per cent. of the exports.

The previously existing preferences of 15 per cent. ad valorem on all canned fruits exported from Australia remain unchanged under the new treaty for Peaches, Pears and Apricots.

The Canned Fruits Board would have preferred a substantial rate of duty, the desired figure being 7/6 per cwt. However, the basis of the discussions between Great Britain and U.S.A. was the lowering of duties, and under these circumstances there was little hope of the Australian Government being successful in asking the British Government to increase its duties on American canned fruits.

The Australian Government has been entirely sympathetic to the request of the Canned Fruits Board, repeatedly endeavoring to have the preferences placed on a more effective basis. **Under all the circumstances, however, the maintenance unchanged of the existing margin of 15 per cent. on Peaches, Apricots and Pears, would be regarded with general satisfaction by the industry.**

An alteration has been made with regard to the duty on **Pineapples.** This has been changed from 15 per cent. ad valorem to 5/- per cwt., which is the equivalent of 1/- per dozen 30 oz. cans. On the basis of present day quotations, this represents a small concession of approximately 2d. per dozen to U.S.A., but on the other hand it represents an increase of about 3d. per doz. duty on Japanese canned Pineapples. The last mentioned country has just recently launched a plan for developing the production and export of Pineapples. It is more than likely that competition from this source will be more intensive from the Australian point of view than from that of U.S.A.

Re Canned "Fruit Salad."

This item was converted from the ad valorem basis to 5/6 per cwt. This is equivalent to 1/1.2d. per dozen cans, and with the added preference on the sugar contents in the syrup, represents a reasonable margin of preference. This should enable Australia to develop its trade in this composite line when packers have sufficient quantities to make a serious attempt to develop the British market with this line.

Canned Grapefruit.

The previous preference of 15 per cent. ad valorem has, under the new Trade Treaty, been removed entirely. There is practically no canning of this product in Australia at present, and on present appearances it would seem that some time would elapse before our domestic market is fully covered before considering supplies for export. In any case, it is very doubtful on a comparison of production and costs whether Australia would be able to compete successfully with U.S.A., and particularly the State of Florida, which supplies practically the whole of the British trade in this line. Their costs are substantially below that of Australia.

"Speaking generally, and particularly with regard to Peaches, Pears and Apricots," concluded Mr. Adams, "the maintenance of the present preference of 15 per cent. must be regarded as satisfactory. Under that preference Australia has made substantial progress in its trade with canned fruits on the British markets. In 1926 the exports were 300,000 cases; in 1932, the year of the Ottawa Agreement, the exports were 650,000 cases; in the current year this has jumped to 1,500,000 cases."

Canned Pineapples.

The manager of the Committee of Direction of Fruit Marketing, Mr. B. Flewell-Smith, states as follows:

The Queensland Pineapple industry will not be materially affected in any way by the alteration of the British duty on foreign canned Pineapple from 15 per cent. ad valorem to 5/- per cwt. The ad valorem basis has always proved unsatisfactory, as it is of least value when most needed, i.e. when foreign canned fruits are offering at low prices. The Canadian duties on canned fruits are on the weight basis and the industry generally regards with favor the adoption by the United Kingdom of the Canadian system.

Under the new duty, Hawaii will be advantaged by a few pence per dozen, which advantage will be increased with any rise in prices Formosa, on the other hand, will have to pay approximately 3d. extra per dozen in duty. The competition in the United Kingdom from Formosa promises to be troublesome. Quite recently we received reports of 100,000 cases of Formosan canned Pineapples being offered in the United Kingdom at 5/- per dozen c.i.f. Naturally an increase in duty of 3d. per dozen will prove no deterrent to Formosa.

FRUIT CENSUS NEEDED.

The chairman of the Fruit Industry Sugar Concession Committee, Mr. A. R. Townsend, in his report to the Federal Government on October 31, states as follows:

"An orchard census is very urgently required, as published official statistics of orchard areas are commonly regarded by fruit industry authorities as unreliable evidence of the actual facts."

Long-sighted Policy Needed.

Mr. W. Young, of Ardmona, President of the Northern Victoria Fruitgrowers' Association, who is also a member of the Fruit Industry Sugar Concession Committee, and who visited London during the trade discussions, whilst appreciating the continued preference of 15 per cent. ad valorem on canned Peaches, Pears and Apricots, holds the view that a ling sighted policy is necessary and that Australian fruitgrowers will not rest until the full measure of preference as intended at Ottawa in 1932, viz. 7/6 per cwt. on a weight basis has been achieved.

Mr. A. W. Fairley, managing director of the Shepparton Fruit Preserving Co., a member of the Canned Fruits Board who also accompanied the trade delegation to London congratulates the Australian Government on its success with the Trade Treaty, and hopes there will soon be a trade treaty between Australia and U.S.A. The Anglo-American trade treaty was necessary for a revival of mutual trade. While the immediate future was not bright for canned fruit owing to the low prices at which America could sell this season, the settling of the point as to the continuance of the British preferences would have a stabilising effect.

Mr. J. G. B. McDonald, M.L.A., speaks appreciatively of the efforts of the Australian canned fruit representatives on the recent trade delegation, mentioning Mr. A. W. Fairley, Mr. W. Young, Mr. G. J. Evatt (N.S.W.), and Mr. W. J. Adams (Secretary Canned Fruit Board).

ANGLO-AMERICAN TRADE TREATY.

Apple and Pear Industry Appreciative.

THE President of the Australian Apple and Pear Council (Mr. J. B. Mills) stated that generally speaking the Government should be congratulated upon the terms which had been agreed to, and whilst this was not all that was expected, it was in some directions better than anticipated—particularly with regard to the retention of the 3/- duty during the balance of the season not affected by the importation of fruit from Australia.

The period for the operation of the increased duty, however, continued Mr. Mills, was one which might cause some concern in view of the fact that arrivals from Australia began to assume considerable proportions by April 15, and unless the understanding between the Governments concerned were honorably observed, it would be quite possible, on a full foreign Apple crop, for quantities of sufficient magnitude to be brought into England with disastrous results to new season arrivals from Australia and New Zealand. In fact, machinery should be set up to safeguard this position.

In conclusion, Mr. Mills stated that broadly speaking the completion of the Anglo-American trade treaty was a matter for congratulation.

Motor Cars, Trucks, Tractors

DIESEL ENGINES..

Hints for Owners

COMPRESSION ignition engines have now reached a state of remarkable reliability and efficiency but power units of this type require a certain amount of care from their operators if full benefit is to be gained from their good fuel consumption and long working life. Melbourne agents of the Cletrac tractor, Reo truck and the Perkins Diesel engine in Victoria have made a short list of service requirements for Diesel operators. The list, which is largely applicable to other makes with compression ignition engines on the Victorian market, contains the following:—

1. Use only fuel of the highest quality.

2. Never place unfiltered fuel in the engine tank. When drawing fuel from any source but an approved bulk storage tank, pass it through a suitable filter or a funnel fitted with Monel metal gauze of 180 meshes per lineal inch.

3. Keep fuel-handling equipment such as measures and funnels, in a dust-proof cupboard.

4. Clean engine fuel tank thoroughly at regular intervals.

5. Air breathers on fuel tanks of vehicles should be protected from the possibility of inhaling road dust.

6. Clean fuel filters regularly and replace elements at least once in every twelve months.

7. Remove, dismantle, clean and test injection nozzles at regular intervals.

8. Leave the fuel inspection pump alone. If a fault is suspected, have it tested at a properly equipped service station.

9. If it becomes necessary to repair or bend fuel piping, it should be thoroughly cleaned out with fuel and high-pressure air-blast before replacing.

10. Do not alter governor adjustments. These are set to maintain engine operation within safe limits, and any change in their setting may have serious consequences.

11. Always maintain the lubricant in the camochamber of the injection pump at its proper level.

12. Use only the recommended grade of a recognised brand of high quality lubricant.

13. Renew the crank case lubricant at regular intervals, as recommended by the manufacturer.

14. Clean the lubricating oil filter frequently—at least every 1,000 miles in road vehicle service.

WHAT DO I KNOW ABOUT TRUCKS?

ONLY THIS. I've been driving them all my life. All sorts. All sizes. Under all conditions. And believe me if you want a truck that stands up to heavy hard-going stuff, Chevrolet's the answer. It's got guts. Tons of it. It can take all the punishment in the world—it can "take it and like it."

HERE'S AN INVITATION! Take one of these Chevrolets out on the job—on YOUR job. Put it through its paces under your usual working conditions. Find out, first hand, if it suits your needs, satisfies you. Unless you're the odd one in a thousand, you'll find it ideal. There is a big range of Chevrolet Utilities and Trucks—Chassis prices from £239 (plus Tax). Easy terms arranged.

Chevrolet TRUCKS

PRESTON MOTORS PTY. LTD.

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REVERSING.

Before starting to move in reverse, look in the mirror to see that the road directly behind is clear.

In reversing, it should be remembered that the car is being steered in effect from the back, and that the movements are therefore more pronounced. The build of the modern saloon makes it none too easy for a driver to look out of the window and watch the off-side rear wing or wheel, but at any rate this is easier than trying to gauge clearance on the near side. Therefore any manoeuvre which includes reversing for any distance should, where possible, be so arranged that backward movement is undertaken towards the off-side.

In any case remember that a foot or two short is better than a bashed back panel or a locked or crumpled bumper. The novice should memorise and practice his pedal positions so that it is never necessary to look down at the pedals. The steering should never be turned with the wheel stationary, and it is wise, when manoeuvring to prepare for the next move by turning the steering wheel considerably the reverse way just before the car is halted.

"MOTOR DIGEST."

Much valuable information for the owners and drivers of Buick and Chevrolet cars, together with motoring topics from overseas, are contained in the first edition of the "Motor Digest," which Preston Motors is now publishing monthly. The editor is Mr. F. H. Mee.

The object of the publication is to maintain personal contact with the owners of Buick and Chevrolet cars. To do this 10,000 copies will be distributed monthly.

The principal articles in the first edition are devoted to the subject of coil springing and transport development.

Motorists are reminded by traffic authorities that it is the duty of every driver of a motor vehicle to ensure that the brakes fitted to his vehicle are efficient in every way and that they are kept at a proper adjustment.

FLUSHING THE SUMP.

Bad advice is remembered more easily than good, and when it has once been adopted it is difficult to change. Here is a case in point, writes Mr. E. T. Brown in "The Farmer and Settler."

A few years ago it was generally suggested that when the new tractor engine had run for about eighteen to twenty hours, and again after running for a further forty hours or so, the old oil in the sump should be drained out and the engine flushed out with paraffin before filling with a fresh supply of lubricant. Since then it has been suggested that a specially prepared flushing oil should always be used and never paraffin.

Tractor drivers have probably heard both of these ideas, but since the paraffin one was the first to be recommended (possibly, also, because it is less trouble and cheaper) it is practised. Paraffin is an excellent cleansing agent, but this is its only good point. If it reaches the bearings, as it should if the engine is flushed out properly, it destroys the oil forming the seal, so after refilling the sump and starting the engine it is some time before fresh lubricant gets to these parts. The little that is left—all the paraffin cannot be drained out—dilutes the new oil and reduces its quality and value.

TIGHTENING NUTS.

Gasket trouble is often the result of the distortion caused by the uneven tightening of the cylinder head nuts. It is so important that the nuts should be tightened up in the proper rotation that tractor makers generally issue instructions in the "book of words" given away with every new machine. The nuts must not only be tightened up in rotation, but also little by little.

The usual order is working from the ends towards the centre, each nut being pulled up just a shade. This should be repeated again and again, in the same sequence, until all the nuts are right home. After the cylinder head has been replaced and the tractor is at work again a halt should be called after a few hours (when the engine is thoroughly hot), and the nuts tightened with a powerful spanner, and in the same order as before.

LOOSE SURFACES.

With the approach of warmer weather motorists are warned to be careful when travelling on roads with lose surfaces.

Accustomed to travelling on tar-paved surfaces in the Winter months, tourists sometimes desregard the fact that all roads are not tar-sealed, and do not possess the same gripping qualities as others when the surfaces are loosened by constant wear in the warmer weather.

The farmer's son decided to become a lawyer. His father drove him to town and got him a job as an office boy with a legal firm.

Three days later the young fellow was back home again.

"Well, Bill, how did you like the law?" his father asked.

"It ain't all it's cracked up to be," said the boy. "I'm sorry I ever learnt it."

Australian Canned Fruits

AVERAGE YIELD PER ACRE IS LOWER THAN CALIFORNIA'S AND NEEDS RAISING.

LARGE SCALE CO-ORDINATED SCIENTIFIC PROGRAMME NEEDED ON SOIL SURVEYS, PRODUCTION METHODS AND PEST CONTROL.

VALUABLE REPORT BY FRUIT INDUSTRY SUGAR CONCESSION COMMITTEE.

THE URGENT NEED for rasing the average production of canning fruits per acre is one of the main features stressed in the annual report of the Fruit Industry Sugar Concession Committee just to hand.

The report is signed by the Chairman of the Committee, Mr. A. R. Townsend, who states—

"Nothing is so urgently needed in the canning fruits industry as a comprehensive, large-scale, co-ordinated attack on all the factors that are responsible for keeping Australian average yields so much below those of our chief competitor, California. Probably Australia will need to spend money on the ablest personnel, experimental orchards, research laboratories and equipment in something like the same degree as in California, before the maximum results can be expected."

Continuing, the report states that the problem was essentially one for the several State Governments concerned, acting with the full co-operation of growers and canners.

A special interstate conference to this end would appear to be desirable.

In this way State Government capital invested in irrigation projects and advances to settlers would be safeguarded. Fruitgrowers would be given much better security for the future, and the industry as a whole might entertain sounder hopes than at present for its future development.

DUE APPRECIATION was expressed for the increased research activities in the last two or three years by several State Departments of Agriculture and the Council for Scientific and Industrial Research.

All present activities, however, fell far short of the scope and intensity of the work done in California.

Moreover, the need in Australia, with a far higher percentage of exports (65 per cent. to 70 per cent.) to total production, and much lower export prices than a few years ago, was greater now than ever before. The industry could not reasonably expect to receive permanent financial assistance on steadily expanding production and exports, based on results in field or factory that were capable of being improved.

Australian canneries, as a whole, had achieved fine standards of efficiency. **The weak spot of the Australian industry was the average orchard,** but, nevertheless, the whole body of hard-working fruitgrowers could not reasonably be criticised for their lack of funds, organisation and power to initiate the very large-scale measures essential to achieve success.

The report, continuing, said losses each season from the **Oriental Peach moth,** brown rot and many other pests and diseases were, in the aggregate, so extensive that it was folly to contend that Australian average yield could not be improved or that costs could not be reduced.

Under proper guidance by scientific experts and full co-operation by growers, Australia could substantially improve her present average yields per acre of Apricots, Peaches and Pears. This would reduce growers' production costs, and enable them to earn at least as good a living as they do at present, but with lower prices per ton that would greatly assist the weak export position of canned fruits and result in larger consumption in Australia.

A similar policy had reduced the production costs of Australian sugar to such an extent in the last nine years (from 20 per cent. to 25 per cent.) that the industry had been able to double its exports, accept a 12 per cent. cut in price for sales within Australia, and still provide a living for thousands of growers.

Nothing like as much had been attempted for canning fruits as for sugar in providing growers with authoritative knowledge of the best methods, under Australian conditions, for tending and pruning trees, using fertilisers, applying irrigation water, overcoming pests and disease, or selecting the best varieties of trees for varying soils and climates, nor for conducting breeding experiments, soil tests, district soil surveys, etc.

Probably this fact accounted for the average yields of Australian canning fruits scarcely having increased, according to some fruit authorities, since the industry became established on a fairly substantial basis.

Concluding, the report stated that while it was probable that **the carry-over** of **canned Peaches** into 1939 would be large, the carry-over of **Pears** was relatively small, and unsold stocks of canned Apricots would be negligible.

These results were commendable when it is considered that the Australian pack of canned Apricots, Peaches and Pears during 1938 was **easily a record,** totalling 3,030,928 cases against the previous record production of 2,328,292 cases in 1937.

CANNED FRUIT EXPORTS.

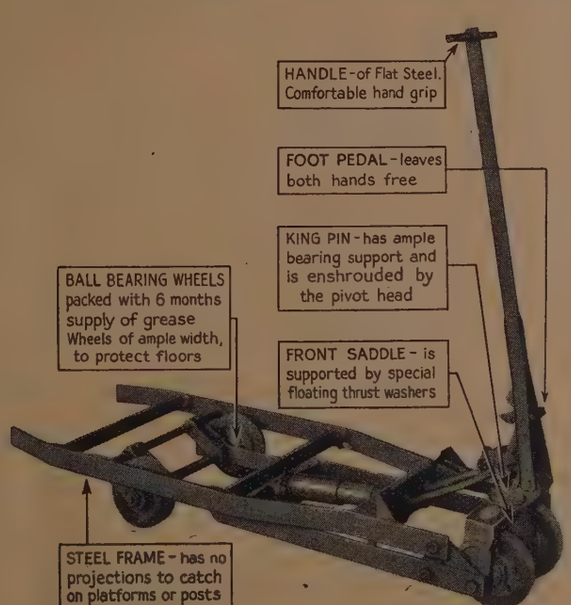
A report is to hand from the Australian Canned Fruits Board giving details of exports of canned fruits from Australia, from the commencement of the current season (January 1), to October 31, 1938. The following is a summary:—

Country.	Apricots. Cases.	Peaches. Cases.	Pears. Cases.	Fruit Salad. Cases.	Pine-apple. Cases.	Total. Cases.
U.K.	173,585	745,666	485,230	255	22,732	1,427,468
N.Z.	24,119	62,487	3,196	—	1,921	91,723
Canada	9,017	30,642	2,838	6,488	35,171	84,156
East	2,483	6,473	4,664	1,287	4	14,911
Misc.	857	1,850	2,106	177	171	5,161
Total	210,061	847,118	498,034	8,207	59,999	1,623,419

REDUCE HANDLING COSTS

ELEVATING-GW-TRUCKS

BALL OR ROLLER BEARING


HANDLE-of Flat Steel. Comfortable hand grip
FOOT PEDAL-leaves both hands free
KING PIN-has ample bearing support and is enshrouded by the pivot head
FRONT SADDLE-is supported by special floating thrust washers
BALL BEARING WHEELS packed with 6 months supply of grease Wheels of ample width, to protect floors
STEEL FRAME-has no projections to catch on platforms or posts

● Truck Illustrated is provided with enlarged frame for fruit industry

● Lifting and load capacities range from 10 cwt. to 40 cwt.

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TASMANIA: W. & G. GENDERS PTY. LTD., Hobart and Launceston.

Agents:
QUEENSLAND: NORMAN BELL & CO. PTY. LTD., Brisbane.
W.A.: FLOWER, DAVIES & JOHNSTON LTD., Perth.

Exports from the 1938 pack had already achieved a record which was likely, at the end of the year, to attain the figure of approximately 1,700,000 cases—or nearly 50,000 cases more than the previous peak exports from Australia in 1937.

The Committee would require to give the most careful consideration within a few weeks to the minimum prices to apply to Apricots, Peaches and Pears of the 1939 season.

THE PORT OF LIVERPOOL.

Although Liverpool has always been prominent as a distributing point for large quantities of Tasmanian Apples and other products, the Mersey Docks and Harbor Board, who control the Port and Docks, recently decided to appoint a representative in Tasmania and Australia, to further the development of trade passing through the port.

Mr. H. W. Richards, who recently retired from Dalgety and Co. Ltd. and was their Australian shipping manager, is now the Australian and Tasmanian representative for the Port of Liverpool, with headquarters at Kyle House, Macquarie-place, Sydney.

Mr. Richards has been closely associated with the development and progress of the export fruit activity through his connection with the White Star, Aberdeen and Shaw Savill lines, and as will be remembered, these lines figured very prominently in the carriage of Tasmanian fruit and they were amongst the pioneers of the overseas traffic.

Liverpool is the distributing centre for very large quantities of Apples and Pears, and this will be appreciated by exporters.

Fruit is one of the most important commodities imported into Liverpool, where excellent dock facilities assure economic handling and prompt despatch.

The bulk of the fruit arriving in Liverpool is sold at auction by members of the Liverpool Fruit Brokers' Association. These auctions are held every Monday, Wednesday and Friday in two well-equipped salerooms. The sales are made "ex quay," samples being shown at time of sale on hydraulic lifts in the salerooms, and also in a large sample display room.

Buyers attending these sales come from all the Midland towns, the north of England, Glasgow and Ireland, so that it will be realised that there is practically an unlimited demand behind Liverpool for the purchase of fruit.

Liverpool is well served with railways and is keeping well abreast of the times in the construction of roads. The result of this is that there is no time lost between the fruit being sold under the hammers, and its despatch to the local centres and the country.

Indeed, it is no exaggeration to say that fruit sold in the morning at the auctions is offered for sale in the retail shops in the midland towns that same evening.

The fruit offered for sale at auction is classified in accordance with a system arranged between the Liverpool Fruit Brokers' Association and the Liverpool and District Fruit Buyers' Association, as a result of which the buyers have the utmost confidence in the condition of the fruit, and they are, therefore, prepared to pay up to the last penny of its value.

Other commodities which are extensively handled at Liverpool are wool, frozen mutton and lambs, butter, pork, also dried and canned fruits.

VICTORIA.

Quantong: The annual meeting of the Quantong Fruitgrowers' Association was held during November. A satisfactory balance sheet was presented, and bonuses were distributed to growers.

There was a large and representative attendance, including Messrs. Slater and MacKenzie, M's.L.A., J. M. Ward (Superintendent of Horticulture), representatives of the State Rivers and Water Supply Commission, the Commonwealth and E.S. & A. Banks, Sun Insurance Co., and J. B. Mills (President Australian Apple and Pear Council).

The management was congratulated on the excellent services rendered to the growers of the district.

GRANULATED CORK FOR FRUIT PACKING.

W. H. Brewer for all Cork Goods.

The attention of fruitgrowers and packers is directed to the advertisement in this issue of W. H. Brewer Pty. Ltd., of Blackwood-street, North Melbourne, who can supply granulated cork in any quantity for fruit packing. They point out that this form of packing becomes economical when it is remembered that it protects the fruit from damage in transit and conserves the moisture so that the fruit lands in perfect condition. This is especially true in export shipments and for long haulage.

Brewers is an old-established business and supply all forms of cork insulation for cold storage, refrigeration and other heat-resisting requirements. For the past 50 years they have served industry and primary producers. Their moulded cork sectional pipe covering is well-known in the trade and their heavy cork boards compare more than favorably with any imported article, being vermin proof and full of air cells, which provide insulation. Besides the above, they also stock Silex Asbestos paint, ready for use, in any desired color.

Silex Boiler Composition is another of their lines, and is used for covering boilers or any other machinery requiring protection from atmospheric conditions. It is easily applied and is packed in 1 cwt. bags or 5 cwt. casks.

Advice, quotes, specifications and all information upon such products will be gladly supplied upon application to W. H. Brewer Pty. Ltd., Blackwood-street, North Melbourne, or by telephoning F 2058 or F 6452.

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A PLAIN STATEMENT OF FACT

TO THE THOUSANDS OF HOLDERS OF COMMONWEALTH BONDS MATURING IN DECEMBER, 1938.

The Australian Loan Council invites all holders of Commonwealth Inscribed Stock and Bonds maturing on 15th December, 1938, to convert their holdings.

The interest rate on the new Loan is 3⅞ per cent. Price of issue, Par. Repayable in 1954, the Treasurer reserves the option of redeeming the Loan on or after 15th December, 1952.

Cash may be invested in this new Loan and will be employed for urgent Defence purposes to the extent of £4,000,000, and for paying off those who are unable to convert their present holdings.

Applications may be lodged with any Bank, Savings Bank, Money Order Post Office, or member of a recognised Australian Stock Exchange.

LOAN CONVERSION

Commonwealth Treasury,
Canberra, A.C.T.

R. G. CASEY,
Treasurer.

Export & Commercial News

Australian Apple and Pear Export

Interesting Comments on the 1938 Season

BETTER SPACED ARRIVALS OF SHIPS ASSISTED MARKET STABILITY — IMPORTANCE OF CORRECT COLOUR GRADING, MATURITY STANDARDS AND GOOD PACKING — THE FRUIT CASE QUESTION — IMPORTANCE OF MARKETING VARIETIES IN THEIR CORRECT PERIODS — CESSATION ADVOCATED OF TRANS-SHIPMENT OF EXPORT APPLES FROM TASMANIA TO MAINLAND.

(By Dr. T. H. Harrison, Commonwealth Fruit Officer, London.)

MANY ITEMS OF INTEREST and importance are contained in the preliminary report on the 1938 Australian Apple and Pear export season, by Dr. T. H. Harrison, Commonwealth Fruit Officer, London. This report was courteously furnished by the Department of Commerce to the Australian Apple and Pear Council for its recent Annual Conference in Sydney.

After dealing with the low prices ruling for American fruit in U.K. during February and March and the justifiable view that Australian fruit faced a poor season, Dr. Harrison continues:—

In a trade which is constantly optimistic, there was, however, eager anticipation of the first arrivals of Australian fruit. Apparently climatic conditions in Australia favored early maturity and the development of good color in the fruit, but the use of fast steamers for the early shipments definitely enabled full advantage to be taken of this seasonal benefit. The **Dunns, London Pippin, Jonathan, Worcester Pearmain and Ribston Pippin** were all exceptionally good. Immediately it was realised that this fruit was of more than average quality and in excellent condition, arrangements were made to stop further shipments of American fruit to the United Kingdom.

The Australian season opened at prices which meant that the fruit immediately went into consumption to an appreciative public, and thus the trade eagerly awaited fresh supplies. The weather in England and on the Continent was abnormally dry and warm during the Spring, and a combination of factors, including the very early cessation of the Jaffa season, the particular turn of the civil war in Spain and the previous booking of most North American refrigerated space for Apples, meant that Oranges were in very short supply, and hence selling at prices which restricted the trade to luxury channels. Gradually **the prices of Apples were advanced until 11/- to 12/- was common for all good dessert Apples,** with the exception of Cox's Orange Pippin and Granny Smith, which, when sound, realised much higher prices.

After dealing with the frosts in England and the Continent, a drought causing a shortage of vegetables, the relative scarcity of Pears, and lessened unemployment because of rearmament, Dr. Harrison continues:—

All of these factors were contributing a quota to the general satisfactory nature of the Australian Apple market, but one factor

Of Supreme Importance

still remains to be mentioned, i.e., **that at no period did the quantity of fruit arriving within a given period in Great Britain reach figures approaching those which so disastrously affected the market in previous years.**

The shipping schedule, in London particularly, was very satisfactory for the 1938 season. Two crises occurred, one at Hull and one in London, but these were safely negotiated with the assistance of unexpected strength of Continental buying, and by the ability of the trade to regulate clearances to the strength of the market.

The experience this year strengthens the contention that the problem of regulating the arrivals of Australian fruit boats in the ports of Great Britain to avoid dislocation of the market was one of outstanding importance, affecting so definitely the welfare of the Australian fruit industry.

With minor fluctuations in general levels, and with variations associated with condition of some varieties, the market continued strong for Apples until the end of July. The market for **Sturmers** was dealt a severe blow by the occurrence of Brown Heart in the "Tacoma Star" cargo. It is doubtful if recovery will occur this season. Those who had large supplies of this variety are thus heavy losers. It is fortunate that its occurrence was deferred to the end of the season.

Grading.

The grading of Australian Apples still leaves very much to be desired. Receivers state that year by year improvements are effected, but criticisms summarised under the following headings indicate clearly that either those concerned do not appreciate the necessity for standards, or deliberately avoid them, and manage in some way to get the fruit past the inspectors. **The success of any pack and the good name of the Australian fruit, from which all exporters benefit, is intimately bound up with more adequate grading.**

1. Color Grading.

Too frequently red Apples are marginal, or below grade, for color, or varying too widely Apple for Apple in one case. This is not confined to any variety, nor is any State immune from criticism. Even when the general average of color was high, the inclusion of odd Apples almost green lowered the value of the sample by 1/- to 2/- per box. **The general raising of the minimum color standards and insistence on a higher degree of uniformity in the grading are strongly recommended.**

Green Apples were too frequently partly colored. Some lines of **French Crab, Stone Pippin, Granny Smith, Alfriston** and **Cleopatra** contained many Apples distinctly "blushed" — a feature considered undesirable, particularly when the blushed fruits usually were more advanced in maturity.

2. Maturity Grading.

The early Cleos. from W.A. and Tasmania, and odd lines from other States, early Granny Smith forwarded from all States, especially from W.A., and certain lines of C.O.P., Ribston, French Crab, Dunns, London Pippin and Duke of Clarence were again severely affected by Bitter Pit. Even when relatively free from pit, the first arrivals of Granny Smith from N.S.W. and Victoria were so immature that after being kept for weeks they failed to develop dessert characteristics, being "tough, turnipy and tasteless." Examples of immaturity wilting were not uncommon. Frequently it was found that odd Apples or Pears in a case were full ripe, the majority satisfactory, and a few green or immature.

In Pears this question is of the utmost importance affecting out turn, and it is therefore urged that in future all concerned should give closer attention to uniform maturity grading.

On the other hand, some lines from most States **were too forward when** shipped. Even when the conditions of transport were entirely satisfactory, and the bulk of the cargo turned out in excellent condition, there were forward to overripe parcels of both Apples and Pears.

Despite the heavy rejections at ports on the basis of maturity, much more stringent measures must be adopted in 1939 to prevent the few careless or dishonest shipping agents or exporters from ruining the general reputation of Austrailan fruit.

3. Grading for Blemishes.

Apples badly affected by hail, scab, russet, Codling, Canary Fly, sun scald and limb rubs were all too plentiful. In a few instances from most States the lines were so generally affected by one, or a combination of several, of the above as to be below grade. The inclusion in many cases of odd fruits showing severe blemishes, ap-

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parently with the idea that the odd fruit doesn't matter, is a general fault with most packs of Australian Apples and Pears.

4. Shape.

The Regulations provide that fruit should have a shape reasonably approaching that normal for the variety, but much lop-sided or otherwise distorted fruits have come forward this season. Misshapen fruits, particularly in Cleo. and Sturmers, are often those in which storage defects develop most quickly, and, therefore, those most likely to reduce the reputation of the variety.

On the other hand, from an Australian viewpoint, it is necessary to remember the influence of climate on the shape of fruit. For instance, the accepted shape for Sturmers is that of fruit from Southern Tasmania. That from Northern Tasmania is generally a little less conical, that from Victoria relatively squat, and that from Queensland and W.A. flat and so atypical as to be a Sturmer in name only. It is suggested that, until such time as the accepted shape for each variety be clearly defined, the regulations governing this matter should be enforced with tolerance.

5. Size Grading.

It seems that there is a patent disregard of all standards of size grading in most States when a grower or packer is faced with the necessity of providing fruit for a certain contract from the sources in which the sizes do not fit in well with the requirements.

From Tasmania this year there have come forward Sturmers, Democrats, French Crabs, Granny Smiths, Ribston Pippins, C.O.P. and Jonathans which were much too large for the size indicated on the case.

Where the maximum size permitted 2¾ in., many Apples up to 3¼ in. were sent, where 3 in., up to 3½ in., and where 3¼ in., up to 4 in. On the other hand, from Victoria, S.A. and W.A. the tendency has been to send a lot of fruit below size requirements. For instance, many 2⅜ in. Apples included in 2½ in. size, and many 2¼ in. Apples included in 2¼ in. size

Apart from this, there are definite instances where the fruit was labelled ¼ in. above the maximum size permitted by the Regulations.

Those who packed according to counts did not avoid the same error. In fact, in some instances where the crown pack was employed, Apples varying ⅜ in. in diameter were adjacent in the one case. It is also considered that the elimination of the ⅛ in. variation in size has been a mistake, because it permits too wide a range in counts of Apples coming forward under the sizes 2¾ in.-3 in. Until growers, packers and shippers appreciate how very important it is to adhere strictly to accepted standards for size grading, little good purpose can be served by changing from one method of packing to another, or by introducing compulsory packing and marking to counts.

Packing.

(a) Apples.

The packing again was most variable. That from N.S.W. was generally good, some conforming to the best American standards, while others to accepted State standards of a fairly full case with the bulge obtained by means of a lidding press.

Queensland packing was fairly good, but in general looser than that of N.S.W. No instances of crown packing were seen.

Victorian packing this year was much improved on 1937, the cases generally being better filled, but only a few instances of crown packing were noted.

S. Aust. packing was also fairly good, the fruit generally being flush with the top of the case, or with a tendency to be a little loose at the ends. No crown packs were seen.

The fruit from W.A. was fairly well packed, although instances were

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noted where the fruit was up to ¾ in. below the lid.

Fruit from Tasmania showed the greatest range in packing standards. Some of the packs were excellent, being proper crown packs and giving high fruit weights. Others, while not crown packs, were quite equal to the best of other States using the standard case. Some poor packing in the standard case was noticed, **but it was in the dump package that the slackest and worst packs occurred.** Many lines in this package were well packed, and it is fair to say that the general average of the majority was equal to that of the Westralian pack, but instances where fruit was at least 1 in. below the top of the case were all too common. It is suggested that, as long as this package is permitted from Tasmania, it is necessary to instruct the growers in the proper packing of it.

(b) Pears.

The standard Pear box was well packed by N.S.W. This case was packed fairly well by S. Aust. and by a few exporters in Tasmania and W.A., although no true crown packs from these States were seen. Some of the hardwood standard cases from Tasmania and W.A. were poorly packed, being inadequately filled. From Victoria the fruit came with one exception in the flat Pear box, which in most instances was packed well, but in some was slack and in others too tight for certain counts, involving much case bruising.

It is clear from the above that Australia is still a long way from the ideal of a uniform pack of high standard, either for Pears or Apples.

Cases.

The cases used for Pears have been mentioned under the heading of packing, but for Apples the packages used were softwood standard almost entirely from Victoria, S. Aust., N.S.W. and Queensland. In all instances some of the cases were of local pine, probably **Pinus insignis,** and generally insufficiently dressed, while from Queensland some cases were of hoop pine, which appeared to meet all requirements.

From Victoria a few dumps, both hardwood and softwood, were forwarded. From W.A. the majority were dumps of redwood, but a few were of imported softwood. It is hoped that the mistake of forwarding W.A. fruit in softwood dumps will not be repeated.

From Tasmania there were softwood standards, hardwood standards and standards of various admixtures of softwood and hardwood and dumps mainly of local hardwood The majority were of good quality, although many, particularly of the hardwood cases, had one or other feature deserving criticism.

Greater care is necessary in the seasoning and preparation of the hardwood timber used in the cases if undue twisting and warping of component parts are to be avoided.

One of the greatest drawbacks to the hardwood standard case as forwarded from Tasmania was the use of thick hardwood lids, making it quite impossible to have a properly filled case without severe bruising of the top layers of fruit.

Many examples of thin, planed hardwood lids were seen. Providing that this timber be properly seasoned, thin enough to give flexibility (say 3/32 in.), and the lids unitised, a fairly satisfactory lid can be obtained. Some lids, made either from a single piece or of several pieces of "peeled" hardwood were examined. My impression is that "peeled" hardwood makes a fairly satisfactory lid even when not properly seasoned.

More attention needs to be given to the length of the lids, particularly in relationship to the type of pack used. Where the proper crown pack is in use the lids need to be approximately ¼ in. longer than the cases, but this extra length would be a disadvantage where the full bulge was not obtained in the pack. The use of lids of correct thickness to give minimum pressure and adequate protection to the fruit is an essential corollary to satisfactory crown packing, both of Apples and Pears.

Of the experimental packages, softwoods cases of Apples and Pears are justified and strongly recommended for high quality fruit of special varieties, because they provide a handy-sized package for the luxury trade, and can be packed with extra care to ensure freedom from case bruising.

Regarding trays of both hardwood and softwood, for certain varieties of Pears—it can here be stressed that only for high quality fruit of varieties required for the luxury trade is such a package justified.

Care should be taken to ensure that the dimensions are adequate to prevent fruit being bruised.

Wiring.

Wiring generally was well done, but it is considered that a slightly lighter grade of wire would give sufficient protection, and thus cheapen the cost of this essential operation. **Some hardwood cases of standard pattern, as well as dumps from W.A., would have benefited by wiring.** This would tend to prevent the heavy cooperage upon discharge now necessary.

Transhipment.

The transhipment of fruit, mainly from Tasmania to vessels loading at mainland ports, is a problem assuming considerable significance. It is recognised that in Australia it does not appear possible to prevent firms with the necessary initiative from attempting transhipment, but the **receivers in Great Britain are unanimous in condemning the practice,** as they claim that transhipped fruit is seldom, if ever, up to the standard of condition of direct shipment fruit.

Such large quantities were transhipped at Melbourne from Northern Tasmania in the 1938 season that serious interference with the State quota allocation must be caused. The export certificate should only be issued after examination of the fruit at the final loading port. This would ensure that fruit in forward or stale condition is not loaded with fruit in good condition, thus complicating the problems of transport and of tracing the causes of defective outturn in the ports of Great Britain. It is contended that fruit of this type is in the same category as fruit shut out from one steamer and resubmitted for loading upon a subsequent steamer.

Conforming to Market Requirements.

It cannot be too strongly stressed that the market is becoming yearly more critical and more selective, both as to varieties and to sizes. It is essential that growers and exporters should make every endeavour to meet the demands of the trade in this direction. It must be appreciated particularly that **dessert Apples over 2½ in. are now unpopular** in practically all markets of Great Britain, whereas cooking Apples are seldom commercially satisfactory below that size.

All concerned in Australia must realise that rigorous grading for quality, careful packing to give full weights and to prevent bruising, and rigid adherence to specifications in contracts are now expected from Australia in keeping with the accepted standards from North American suppliers. (To be continued)

GREETINGS BY TELEGRAM.

The Deputy Director, Posts and Telegraphs (Mr. R. N. Partington) advises that special new greeting telegrams will be available between 14th December, 1938 and 6th January, 1939, and the public is requested to lodge such greetings as early as possible to ensure timely delivery. Full details of the facilities are available from all Postmasters, or on application to the Telegraph Branch of the Department.

Apple and Pear Export

Control Board Will Operate for 1940 Season.

ALTHOUGH SUNDRY AMENDMENTS were proposed whilst the Apple and Pear Organisation Bill was going through Parliament, the measure was enacted in substantially the form in which it was submitted to growers' organisations.

Thus the industry enters upon a new phase. The control will operate as from the 1940 season.

Interest now centres in the selection of the personnel of the first Board. Then steadily the State organisations which now constitute the Australian Apple and Pear Council will make their needed adjustments to fit in with the new procedure.

It is a pleasing feature that the Apple and Pear Council won and maintained the support of the growers and the industry generally and was acknowledged officially by the Commonwealth Government.

The Organisation Act.

The main features of the Apple and Pear Organisation have been previously published in the "Fruit World."

At one stage there was a difficulty in Parliament over the method of allocating the export quota. One proposal was to make the system "uniform" as between the States, but this was deemed to be too rigid in not allowing for crop variations. Similarly, the proposal for deciding the quota on the basis of the three pre-

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vious years' exports was not considered to be sufficiently elastic.

Summed up, the quota will be decided in much the same way as it has been previously attended to by the Council, viz. with the three-year export figures as a basis, with due allowance for the crop conditions in the several States.

Then, as regards the continuance of the Control Board after the first three years: The Government accepted an amendment which provided that a poll of the industry can be taken if requested by not less than 500 growers.

As regards the provision in the Act for the Board to undertake insurance, an amendment was proposed, the effect of which would compel the granting to Australian insurance companies of a considerable measure of preference.

It was finally decided to give the Board full powers to conduct its affairs.

N.Z. FRUIT CROPS.

Good Crops of Apples and Pears Forecast.

The N.Z. Dept. og Agriculture, under date November 15, advises fruit crop conditions in the Dominion as follow:—

Auckland.—Apples: Heavy. **Pears:** Heavy. **Plums:** Light.

Hamilton.—Apples: Med.; C.O.P. and Del. lighter than last season. **Pears:** Fair.

Tauranga.—Apples: Jon., good; Dunn's patchy; Del., patchy; Ballarats, light.

Gisborne.—Apples: Del. and Ballarat, light; crops below average; C.O.P. and Sturmer blossoming heavy, others patchy. **Pears:** Average. **Stone Fruits:** Average to heavy. **Citrus Fruits:** Good prospects.

Hastings. — Gravenstein, light; Cox's light; Jon., light; Dunn's very light; Del., very light; Sturmer, normal; Dougherty, light; others medium; Ballarat, very light. **Pears and Apricots;** Normal. **Peaches, Nectarines and Plums:** Heavy.

Palmerston North.—Apples: Medium; Cox's light to medium, Jon. light, Dunn's light, Del. medium, Sturmers heavy, others medium. **Pears:** Heavy.

Masterton.—Apples: 85 per cent. of normal; C.O.P. good setting, Jon. and Dunn's fair, Sturmer med, others med. **Pears:** Normal.

Nelson. — Apples: Grav. normal, Cox's light, Jon. good, Dunn's medium, Del. patchy expect light crop, Sturmer normal, Dougherty good, others moderate to good, Ballarat and Statesman light. **Pears:** Good; W. Nelis not setting well.

Mapua.—Apples: Grav. fair to average, Cox's very light to fair, Jon. normal to heavy, Dunn's very light, Del. very light to average, Sturmer normal to heavy, Dougherty fair to average, Statesman light to average, others fair to good. **Pears:** Average; W. Cole good, W. Nelis and B. Bosc light to average.

Motueka.—Apples: 90 per cent. of normal crop; Grav. good, Cox's fair, Jon. good, Dunn's med., Del. med., Sturmer good, Dougherty good, others fair to good. **Pears:** Slightly under average. **Peaches, Plums and Cherries:** Fair to good.

Blenheim.—Apples: Prospects of a slight increase over last year. Cox's generally light; Jon. light to average, Sturmer average to heavy, Dougherty average, others normal to heavy.

Dunedin.—Apples: Heavy. **Pears:** Heavy.

Alexandra.—Apples: Cox's Orange normal, Jon. normal, Dunn's light, Del. light, Sturmer heavy, Dougerty normal, others normal. **Pears:** Good.

Roxburgh.—Apples: Heavy; Cleo. and Dunn's very heavy. **Pears:** Heavy.

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SYDNEY MARKETS.

Opening to Remain at 7 a.m.

The Chamber of Fruit and Vegetable Industries recently sent a deputation to the Lord Mayor of Sydney opposing the proposed earlier opening of the Sydney Markets.

As a result of the deputation the City Council at its last meeting approved of the universal opening hour remaining at 7 a.m. as it is at present, for a further trial period of six months expiring on May 2, 1939.

The General Secretary of the Chamber, Mr. P. S. Macdermott, adds "I believe that opposition to the 7 a.m. opening has been gradually decreasing, and feel confident that by next May it will have almost completely disappeared."

U.S.A. Fruit Crops

Apples, Pears and Peaches.

Apples Much Lighter Than Last Year.

The following report re 1938-39 crop forecasts is to hand from the United States Department of Agriculture in co-operation with the California Department of Agriculture.

Apples.

For the entire United States the forecast is 130,100,000 bushels, as compared with 210,673,000 bushels in 1937. However, commercial Apple production, or that part of the total crop which probably will be sold for fresh consumption, is estimated at 77,155,000 bushels, compared with 115,501,000 bushels in 1937, with a 10-year average of 92,821,000 bushels. State forecasts (of the total crops) are (in thousands of bushels): New York, 15,750; California, 7,011; New Jersey, 4,249; Pennslyvania, 9,947; Ohio, 3,875; Illinois, 3,248; Michigan, 6,930; Missouri, 539; Maryland, 2,233; Virginia, 10,560; West Virginia, 4,800; Arkansas, 364; Idaho, 3,404; Montana, 497; Colorado, 1,982; Utah, 531; Washington, 29,565; and Oregon, 3,924.

Pears.

The forecast for the United States Pear crop is 31,512,000 bushels, as compared with 29,548,000 bushels in 1937 and 26,956,000 bushels in 1936. The following are the forecasts (in thousands of bushels) for the principal Pear States: New York, 2,002; Michigan, 1,421; Ohio, 671; Pennslyvania, 670; Illinois, 407; California, 11,102; Washington, 6,059; Oregon, 4,223; Texas, 440; and Colorado, 261.

Peaches.

California is the principal Peach producing State. The production estimate of Clingstone Peaches in California is 323,000 tons, as compared with 370,000 tons in 1937; 337,000 in 1936 and 288,000 tons in 1935. The estimate for Freestones is 179,000 tons, as compared with 188,000 tons in 1937; 179,000 in 1936, and 141,000 tons in 1935.

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Market Notes and Prices

SYDNEY FRUIT MARKET.

THE FOLLOWING REPORTS are to hand from the Market Representative of the Fruitgrowers' Federation of New South Wales, Sydney.

Apples: The prolonged season that is being experienced is proving a most satisfactory one from the standpoint of prices, values being the highest for many years. This applies particularly to N.S.W. **Granny Smiths**, which are to 20/-, and **Delicious**, which are to 22/-. It is believed that both these types will further increase in value within the next week or two. **Democrat** from Tasmania and **Yates** from Victoria are both meeting with good request, and the last of the **Crofton** and **Sturmer** are also selling well. New season **Allsop's Seedling** from the metropolitan district of this State appeared this week and extremely green and small fruit sold to 7/- per half bushel case.

Pears: Winter Nelis and a few **Winter Cole** are still available, but the quality of fruit in most instances is not very attractive.

Apricots: These appeared from the early metropolitan and Kurrajong districts of this State, first showing about October 24, while the M.I.A. commenced to forward this week. Early types were mostly rain split, and the humid weather experienced caused quick development of fungus. Wastage as a result was considerable, and values only latterly have improved to profitable levels.

Bananas: Sydney arrivals of this fruit have been between 13,000 and 14,000 tropical cases each week for some time and only latterly, as stone fruit has become more plentiful, have values suffered a little. In addition to the quantities mentioned as being forwarded, consignments have been directed to Broken Hill, Newcastle and other places as occasion warranted.

Cherries: Camden District fruit was the first to appear, but wet weather had a disastrous effect upon the quality and appearance and Camden growers have not experienced their usual high values, in consequence. Young District followed on October 24, values commencing at 12/- per quarter bushel. By the end of the month prices had reached their customary level of 4/- to 5/-. As the early types finished and the size and quality improved, good demand was experienced, despite the prejudice of the retail trade to the unfaced pack ing adopted by the Young Fruitgrowers' Association. It was believed that reduced handling possible when cases were not faced would assist in the maintenance of a bright appearance to the fruit. The Orange District came on the market in quantities about the middle of November and good values and fine weather have characterised the season up to date.

Citrus Fruits.

Grapefruit: Marsh Seedless from the M.I.A. is still coming forward in small quantities, and occasional consignments of second crop coastal fruit also.

Lemons: The last month has been a period of scarcity of good fruit, most "cured" having been kept rather too long, while freshly picked fruit has had a short keeping life.

Oranges: Navels were practically finished at the end of October, while Valencias increased in supply about that time. The level of values with the exception of small sizes remained steadily at from 4/- to 8/-, while small sizes were largely taken by the publicity selling scheme. Black Spot became particularly active in the coastal fruit early in November, and recently it has spread with increasing rapidity—areas previously unaffected suffering considerable loss. Supplies on the market have increased recently as growers have attempted to market before the Spot took the fruit, and prices this week are lower for average standard grade, while plain grade is unsaleable when Black Spot is the reason of the plainness. Growers attribute the virulence of the Spot this season to the early Summer weather experienced, temperatures and humidity being greater than usual at this season of the year.

Inland supplies of Valencias have not been considerable, this fruit being retained for N.Z. and other markets.

Gooseberries: Young District commenced to send forward on November 1, and Tasmania followed the following week. Both the Orange District and Dandenong (in Victoria) are also forwarding supplies at present.

Queensland Tropical Fruits: The first of the Mangoes have just appeared while Mundubbera is market-

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ing its famous Cantaloupes. Papaws are less plentiful than was the case a few weeks ago, and Pineapples have suddenly become a problem owing to waster-blister appearing.

Plums: Early Gem and Early Jewell appeared and the first of the Wilson are coming forward at present. This last-mentioned type is being sent forward to the Queensland market as demand warrants.

Peaches: Mayflower and some other early types are attracting buyers at the present time, although very few Peaches are larger than 10 dozen to the case. These are from the Ryde and Liverpool Districts near Sydney.

Passionfruit: The usual lull in supplies from places near Sydney has occurred and we are now receiving from Brisbane Market and the North Coast of this State. Larger supplies caused prices to recede from 18/- and 21/- to 8/- and 14/- within a week.

Strawberries: We are now dependent upon the limited supplies produced in this State, and values are only nominal.

Tomatoes: The Central North Coast of this State is now dominating the Tomato position, arrivals totalling more than 22,000 half bushel cases per week. Queensland is also sending forward about the same quantity, while glasshouse grown fruit is just nearing the end of its season.

The very hot weather experienced has been favorable to the consumption of Tomatoes, and although values have slumped on occasions, prices have quickly recovered. Growers generally have been fortunate up to the present, the cool spell now being experienced only reducing values to the prices quoted.

It is estimated that the Tasmanian Apple crop in the coming season will be about 4,250,000 cases: Pears 300,000 cases.

WESTERN AUSTRALIA.

Perth (25/11/38).—Apples: Yates, dumps 8/- to 11/- (fancy), 9/- to 11/6 (ex. fancy); G. Smith 8/- to 13/- (fancy), 13/- to 15/9 (ex. fancy); Rokewood 8/- to 9/- (fancy). Citrus: Oranges, Val. and Joppa, flats, 2/- to 4/- (special to 5/-); dumps 3/- to 5/- (special to 7/-); Navel, flats, 4/- to 7/- (special to 9/-); dumps 5/- to 8/- (special to 13/-). Grapefruit, dumps, 8/- to 10/- (special to 12/-; Lemons, flats, 1/- to 5/- (special to 7/-). Other lines: Tomatoes, flats, local 3/- to 14/-; Geraldton 1/- to 5/6; Apricots, flats, 1/6 to 7/-; Bananas, Carnarvon, 18/- to 25/6 crate; Passionfruit, half bushel 12/6; Peaches, flats, 2/- to 9/-; Loquats, flats, 3/- to 8/6.

QUEENSLAND.

Brisbane.—Messrs. Clark & Jesser report, under date November 18, as follows:—For a few weeks since our last report, the market became heavily supplied with Apples, which is most unusual at this time of the year, and in consequence prices fell back considerably, but at present are improving again.

Ruling prices at present are: —Apples: Yates, Jons., Croftons, 12/- to 13/-; R.B., 10/ to 12/-; Sturmers, 10/- to 11/-. Cooking Apples very scarce, and G. Smiths realising 16/- to 17/-. Pears: W.C. and Jose., 14/- to 15/-; W.N., 13/- to 14/-, small sizes all varieties, 9/- to 10/-. Oranges: Vals., 8/- to 9/-, small 5/- to 6/-. Lemons, 11/- to 13/-. Passionfruit, 11/- to 12/-. Papaws, 2/- to 3/- dump case. Bananas: Green, 10/- to 12/- case. Pineapples: Roughs, 9/- to 10/-, Smooth, 7/- to 8/-. Cherries, 6/- to 8/-. Apricots, 10/- to 12/-. Peaches, 2/6 to 3/6 per tray. Tomatoes, 4/- to 6/-.

FRUIT ON THE BRISBANE MARKET.

Review of Year's Operations.

THE supply of fruit to the Brisbane market during the past year has been around normal. Victorian consignments have not been so heavy, due, no doubt, to the drought conditions prevailing there, but Tasmania made up for any shortage. In fact, we received in Brisbane 62,000 cases from Tasmania in two weeks at one part of the year.

A noticeable feature of the business of late has been the falling off in supply of old varieties of Apples, particularly from Tasmania, such as Ribstones, Alexanders, Prince Alfreds, Worcesters, Adam's Pearmain, Royal Pearmain, Alfriston, Mobb's Codlin, French Crabs, and Sturmers, and from Victoria, London Pippins, Rokewoods, Munros, Yapeens, Schroeders, Pioneers, Pomme de Neige, Statesman, Buncombe, Doherty and King David, all of which at one time used to come to this market in fair quantities. As far as Brisbane is concerned, the public has of late years confined its purchases to other sorts such as Jonathans, Huon Belles, Tasman Prides, Delicious, Geeveston Fanny, Granny Smiths, Yates, Croftons and Democrats.

Late in the season we find that Croftons and Democrats sell very well, but the sale of these varieties is largely affected by the Victorian Jonathans, which of late are held in store till November, and as the Jonathan is probably the best seller here throughout the year, it has precedence in sales at all times.

Victorian consignments have been fairly regular through the season, but the quantity has not been up to other years. We note particularly that growers held on to Pears too long, and whilst prices for choice Coles during July and August were up to 16/-, a lot of fruit was held back in anticipation of still higher values, with the result that Coles arrived here late October and November in faulty condition and realised poor prices.

We handled some very fine Apples from Victoria this year, in fact, some of the best we have ever seen, but at the same time a large quantity of inferior Apples came forward, more particularly late in the season, and adversely affected the price of good quality fruit. During October Apple prices were very firm in Brisbane, with prices up to 14/-, and this coincided with a slight depression in the Sydney market, the result being that growers switched their next few consignments from Sydney to Brisbane, causing an easing here of several shillings per case.

We are of the opinion that stricter attention should be given to the marketing of inferior fruit. Although there is a big production of fruit grown in Australia, we are firmly of the belief that good average prices can be obtained for good quality fruit, provided that it has to pass inspectors before it is allowed to leave any district or State, and anything that is not up to standard be immediately stopped, and not allowed to be forwarded to any interstate market. During the past few years there has been a tremendous amount of this inferior quality marketed, and it has always affected the prices of the better class. In view of the increased production that is predicted within the next few years, unless something along these lines is done, poor prices are going to be the result. While it is admitted that some growers, through seasonal conditions and other unforeseen circumstances, cannot produce the fruit they would like to, there is a large number who will not try and produce the better class, and these are the people who are the cause of the more conscientious growers not realising better average prices.

We would suggest that the various organisations take steps to have regulations brought into being to cover this, and where growers who are unable, through circumstances beyond their control, to produce a better quality, be allowed some relief by the Government until such times as he is in a position to be able to stand on his own, and the grower who consistently markets the inferior grades be given notice, and that unless he does not improve his pack, steps be taken to condemn the orchard. Should something along these lines be done, we do not think that the fruit industry of Australia will have anything to worry about.—Hedley V. Geeves Pty. Ltd., Turbot-street Fruit Exchange, Brisbane, Queensland.

Shepparton Cannery's Profit £17,799.

THE SHEPPARTON FRUIT PRESERVING CO. report a nett profit of £17,799, after providing for depreciation, taxation, etc. The turnover, despite reduction of U.K. prices last season was £630,225, with profits of £10,051 carried forward, gives a total of £27,850 at the credit of the profit and loss account.

"The directors recommend a dividend of 12½ per cent. on ordinary shares (£10,925), a dividend of 6 per cent. on preference shares (£2,617), the transfer to general reserve of £5,000, and that the balance (£9,307) be carried forward. The sum of £16,040/19/2 has been provided for depreciation, bringing the total depreciation to £166,323. A total amount of £141,260/18/7 was paid to growers for fruit. Extra payments amounting to £11,780 were made during the year."

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POULTRY

Culling of Hens.

Factors to be Considered.

FROM NOW ONWARDS a gradual process of culling should be carried out, particularly among the second-year hens. The extent to which culling is practised (writes the Poultry Expert of the N.S.W. Department of Agriculture in current notes) should be governed by several factors, namely, the rate of egg production, the general condition of the birds, the necessity for making available accommodation for the pullets as they reach maturity, the ruling market rates for hens, and the price of eggs.

Egg production from hens during November and December should average slightly over 50 per cent., and on present prices of foodstuffs and first-grade eggs this rate of production should show a profit of approximately 7½d. per bird per month over the cost of feed, which works out at £3 per month for one hundred birds.

This income is a consideration in view of the cost of feeding the young stock and as the second-year hens should produce about the same number of eggs as first-year birds during the next two or three months, and many second year hens may continue to lay throughout the autumn, the question of early culling should be carefully weighed before taking any drastic action.

It may be contended, of course, that on account of the higher prices usually ruling for hens during November and December, compared with those of a couple of months later, it would be more profitable to market the hens early rather than keep them, but on the figures quoted, there would have to be a reduction of more than 2/5 per pair between November and December to render it more economic to market any considerable number of hens during this period.

It has also to be taken into consideration that the price of eggs usually rises from December onwards.

The disposal of hens, therefore, must be looked at in the light of the income likely to be derived from egg production, whilst the circumstances of the individual farmer as regards accommodation is also a factor.

When to Cull Heavily.

The best course to follow is to keep a check on production, and if it drops appreciably below normal expectations over a period of a few weeks, then it would be advisable to resort to heavier culling. As a guide to those who may be in doubt about normal production, it is to be expected that hens should lay the following averages during the six months:—

Month.	No. of Eggs.
November	17
December	16
January	13
February	11
March	7
April	6

It should be understood, however, that there may be temporary fluctuations one way or the other over short periods and this has to be taken into account in calculating production.

Gradual Culling of Second-year Birds.

If, after consideration of the facts mentioned, it is decided that circumstances warrant the retention of second-year hens as long as they are profitable, the normal procedure from now onwards would be **to eliminate gradually any birds which show signs of ceasing to lay.** The outward indications are a dull appearance, the combs commencing to shrivel, and later the commencement of a moult. To obtain the best prices for these birds they should not be allowed to reach the moulting stage.

Those birds which have ceased to lay will be found to have close pelvic bones and generally the abdomen will be contracted. In handling the heavy breeds, however, allowance must be made for any hens which have been broody, as such birds will "handle" as described.

A similar procedure may be followed with the first-year hens between now and January, because any birds which show signs of breaking into a moult during this time are not likely to pay to keep for another season.

PIGS AND PORK.

Heat Apoplexy in Pigs.

Its Treatment and Prevention.

HEAT APOPLEXY is a disease of pigs which is due to insufficient shelter and shade in hot weather. It occurs in very fat animals, and is most likely to be noticed if the pigs are exercised or travelled in the heat of the day; but it may often be seen in pigs without exercise if they are exposed to the hot sun without shade, states the N.S.W. Department of Agriculture.

There may be few warning signs, the fat pig simply falling over and becoming unconscious. The condition is serious. Water poured over the head and snout will often be beneficial. Whisky or brandy in doses of a dessert to a tablespoonful may be given, or any other stimulant which is available.

Prevention lies in providing shade in the hot weather, and not travelling or trucking fat pigs on excessively hot days. During the Summer months the provision of shade for pigs is very essential. The ordinary sty, especially if it has an iron roof, is very hot, and some other shade is necessary in the heat of the day. If no trees are present a wooden shed will answer the purpose.

Another important aid to the health and comfort of swine is the provision of a bath in which they can lie in hot weather. One made of concrete is easiest to keep clean, and therefore best.

UNUSUAL PEACH TREE.

During his recent visit to Toronto (Canada), the Minister for Commerce (Sir Earle Page) visited the orchard of C. Howard Fisher & Sons at Queenston, Ontario, and viewed a very unusual type of Peach tree.

In 1934 a one limb early ripening variant was observed on a Valiant tree. Top budding was done, and in 1936 the top-worked tree bore fruit which was ripened at the same time as the fruit on the parent stock, but three weeks before the ordinary Valiant fruit. The sporting appears to be limited to one character only, viz., time of maturity, and does not affect the fruit, which is identical with the true Valiant. As it is a high quality yellow-flesh freestone Peach ripening in a season when other varieties are clingstone and of inferior quality, the Fisher Peach appears to be a valuable acquisition.

"Most interesting," breathed the sweet young thing to the motor-car salesman, "and now do show me the depreciation, please. I hear it's heavy in these cars."

"As a matter of fact, madam," enthused the opportunist, "we found it a source of worry and had it removed altogether."

Apples for Health

Popular Information From Scientific Sources

SIMPLE CLUES give men of science their inspirations. Louis Pasteur was working on the ferments of wines and beers when the idea struck him that germs are the cause of disease. Our present wide use of the sun and the sun-lamp treatment can be traced to a young man who one day began wondering why his pet cat always slept in the sunshine.

Dr. August Heisler got his inspiration about Apples from a proverb.

August Heisler, born in the late '70's in Konigsfeld, Germany, was a physician who spent part of his time working in the Schwartzwald children's clinic. Here he had become well acquainted with **infantile diarrhoea** and those other related **intestinal disturbances** which have, since the rise of civilisation, taken such a great toll of human life. It was outside the clinic that De Heisler's worst diarrhoea patient, a young man, lay under his care. For years this case had seemed incurable. The doctor had tried everything — special diets, liquids, starvation—but the mysterious diarrhoea persisted.

Now, every country in the world has legends and proverbs about simple curative foods. **Many of these lengends speak of the Apple.** The Turks believed that Apples had the power of restoring youth. In Pomerania, a province in Prussia, an Apple eaten on Easter morning was said to insure against fever. The peasants of Westphalia used Apples mixed with saffron as a cure for jaundice. In Devonshire, England, an Apple cut in two and rubbed on warts was thought to cure them.

Germany had many legends about the Apple as a curative food. One came to the attention to Dr. Heisler. In the provinces of Silesia and Thuringia, the peasants ate Apples "from the bottom up" to cure constipation and "from the top down" to cure diarrhoea. The idea suddenly came to Dr. Heisler: "Why not use this Apple treatment on his 'incurable patient'?" The very next day he began feeding his patient with raw Apples.

Twenty-four hours after the first dose of raw Apples, the young man showed definite improvement.

And a few days later that stubbornly "incurable" case if diarrhoea was released from Dr. Heisler's care —cured!

That was in the year 1908. Yet so very careful a scientist was August Heisler that it was twenty years after this when he published his first report on the Apple treatment. In those two decades at the Schwartzwald children's clinic he had used the "Apple therapy" for many of the serious intestinal troubles associated with diarrhoea. His cures by that method seemed almost miraculous.

Other doctors gradually took up the treatment and published their findings. Since 1929, literally thousands of case histories have been reported from at least a dozen countries. Through all those reports there is one common denominator.

The Apple diet is the most effective treatment for many of the intesinal disturbances which have caused so much misery and suffering to the people of the world.

Such a discovery was particularly important. A table of the causes of death show that enteritis (inflammation of the small intestine) has brought death to more people than has typhoid fever, scarlet fever, diphtheria, or infantile paralysis. As a scourge to humanity it is almost as bad as influenza.

The growing evidence is that the Apple is not only curative, but preventive not only for constipation, but also, paradoxically enough, for many forms of intestinal inflammation the outward sign of which is diarrhoea. To the healthy person this simply means that the Apple is an excellent food to help keep one's intestinal tract in normal, trouble free condition.

When a simple fruit food is proved to do that, the science of keeping well has certainly advanced.

While Drs. Heisler, Moro and others were working with Apple therapy, such investigators as Zilva, Sherman, Fellers and a host of others had been looking into the other nutritional values of principal fruits and of green vegetables. People began to learn about the importance of vitamins and minerals, proteins and calories. Let us consider the Apple in its content of these **protective nutritional factors.**

The Apple and Minerals.

THERE are thirteen minerals present in the body. These minerals serve mainly as regulators of bodily activity. Of these the most widely discussed are **calcium, phosphorus and iron.** The first two, calcium and phosphorus, form a principal content of our bones and teeth. A shortage of these minerals in the diet soon shows itself in a weakening of these parts. Phosphorus has been termed "indispensable for all active tissues of the body" (Rose) while calcium is known to be of significance in the regulation of many body processes, such as the control of the contractibiilty of muscles, the normal response of nervous tissue to stimuli, and coagulating power of blood. The body contains more calcium and phosphorus than any other minerals. In fact, together, these two account for about one-fortieth of a man's weight.

Iron, on the other hand, forms a very small part of the weight of the human body—less than one-tenth of an ounce. Yet iron is, perhaps, of equal importance to calcium and phosphorus. Without iron, the red corpuscles of our blood are unable to carry oxygen to the other cells. In other words, without iron in the blood we could not live. This body iron must be replenished constantly, because the red blood corpuscles use each bit for only a short time and our bodies are capable of storing up very little of it.

What foods will give us iron, calcium and phosphorus? Nutritionists and dietitians recommend dairy products as a prime source of calcium and a good source of phosphorus. They point to certain of the fruits and green, leafy vegetables as good sources of food-iron as well as sources of other vital minerals.

Fruits—including the Apple—have certain advantages in supplying minerals.

First, most everybody likes the fruits. Second, they are in the market almost every month of the year all over the country at reasonable prices. Third, in such fruits as the Apple the needed minerals are found in a form most easily assimilated by our bodies. Thus while Apples contain very small amounts of iron, the body uses a larger proportion of it than of the iron in certain other common foods.

And, more significant, the eating of Apples is now known to help our bodies absorb the iron in other foods.

APPLES FOR HEALTH (Contd.).

The Apple and Vitamins.

About 1910 a new word vitamin came into being, derived from the Latin vita, meaning life.

Vitamin A: The Vitamin A itself has a marked effect on growth. It also plays a large part in the ability of the individual to ward off infection. The explanation of the latter function is extremely interesting. Along the inside of those passages such as the digestive tract, lungs, nose, etc., along which things from the outside world pass, there is a protective coating of mucus, secreted by minute cells. In a Vitamin A deficiency these cells are unable to secrete this mucus and then the passage is laid open to infection. As far as the nose and throat are concerned, this means that a Vitamin A deficiency reduces one's resistance to the common cold. Apples contain good amounts of Vitamin A. Recent investigators have shown that some varieties of Apples exceed the Orange by as much as 50 per cent. in Vitamin A potency. Oranges were considered at one time to be second only to such foods as milk, butter, and eggs in this respect.

Vitamin B: Vitamin B is often called the nerve vitamin, since it has to do with controlling the functions of the nervous system. An extreme shortage gives rise to a disease called beriberi, a nervous affliction marked by wasting of muscles, paralysis, anaemia, and neuralgic pains. Partial deficiencies cause sagging stomach nad counteract normal functioning of the intestinal tract as well as the nerves. Apples—not a leading source of this vitamin—are yet among those foods which nutritionists recommend for use in the diet to supply Vitamin B.

Vitamin C: Before the turn of the century, sailors who went on extended voyages often developed a disease called scurvy. This we know today to be a direct result of Vitamin C shortage. These sailors when they returned home were given large quantities of fresh fruits and vegetables, and the fruit and vegetable treatment usually relieved the disease. **Apples played a prominent part in those early diets to "cure" scurvy.**

Scurvy itself illustrates all the effects of a Vitamin C shortage. In this disease the joints become tender. The appetite falls off so that before long nutritional deficiency begins to show by loss of weight. The bones and teeth become porous and delicate, and certain conditions in the blood vessels give rise to internal hæmorrhages. Vitamin C is frequently called the "bone" vitamin, so closely is its presence related to normal conditions of the bones and teeth. Apples are rated a good source of it.

Vitamin G: The acute shortage of this vitamin shows up as a commonly known disease called pellagra. This disease is marked by skin eruptions, indigestion and diarrhea. While science has not yet studied the lesser deficencies of this substance, it is known to be necessary for our growth and well being. Apples contain small but valuable amounts of Vitamin G.

The two vitamins which fruits do not supply are Vitamin D, the sunshine, vitamin, and Vitamin E. The former is closely connected with bone formation, and shortages result in rickets. It is supplied by fish oils and the yolks of eggs. Science has not yet fully explained Vitamin E in nutrition, nor its primary food sources.

The Apple is thus valuable among the fruits for its vitamin content as well as for its mineral. From the eating of Apples we get particularly those vitamins that nutritionists look for in the fruit foods—vitamin A, the "growth" vitamin, and Vitamin C (guardian of teeth). Leading varieties of Apples supply both these great "protective" food factors in "good" amounts.

The Apple, furthermore, is one of the best foods for keeping our digestive tracts in a normal, healthy condition. This is because, among all fruits, the edible portion of the Apple contains the greatest amount of a substance called **pectin.** It is also quite rich in the valuable fruit acids. By combating harmful toxins, pectin and the fruit acids help protect us from many forms of intestinal ills. By forming with water a bulky mass in the lower intestine, they stimulate normal intestinal activity.

Thus, the Apple has a protective influence against common intestinal disorders which result in constipation in some cases and diarrhœa in others.

The Apple is a good food to include in "Reducing diets," also. It is very low in fat and protein, and contains but a relatively small number of calories. This means that it may be featured in the diet of those who wish to keep a slim waistline, yet wish to protect themselves with a supply of the food minerals and vitamins.

Children traditionally love Apples. Here, nature has set up a real appetite appeal to induce them to eat one of the things that are good for them. Those valuable minerals and vitamins which Apples supply are in even greater demand in the bodies of growing children than they are in adults. And children should be encouraged in the practice of eating Apples slowly, chewing them well, in order to get the greatest enjoyment and nutritive value from them.

One Fundamental Rule.

No matter how complicated research may become, no matter what many-syllabled words it may produce, there is one fundamental rule. It applies to all average, healthy people.

Eat plenty of simple, varied foods, and don't worry. A balanced diet has the best chance of supplying all that is necessary for good health.

And in speaking of a balanced diet, medical science recommends three types of foods. Those which build tissue, those which supply energy, and those which increase our resistance (the protective foods). And it is well known that normal people eat too much of the first two kinds, and altogether too little of the protective foods, fruits and vegetables.

One of our first rules of health should be to eat freely of these luscious Apples all the year round.

The foregoing is adapted from the Apple propaganda issued by the Washington (Pacific Coast) State Committee's literature.

Note.—The information in this article was freely used in the recent Apple Publicity Campaign in Australia, conducted by the Apple and Pear Council, in conjunction with the Federal Government. During Health Week, doctors and dentists quoted from the foregoing and emphasised the value of Apples for health.

"Get that old bit of scrap-iron out of the way," shouted the driver of a modern car to a man in front who seemed to think he owned the road.

The man pulled up and demanded an apology.

"You've got it," replied the other.

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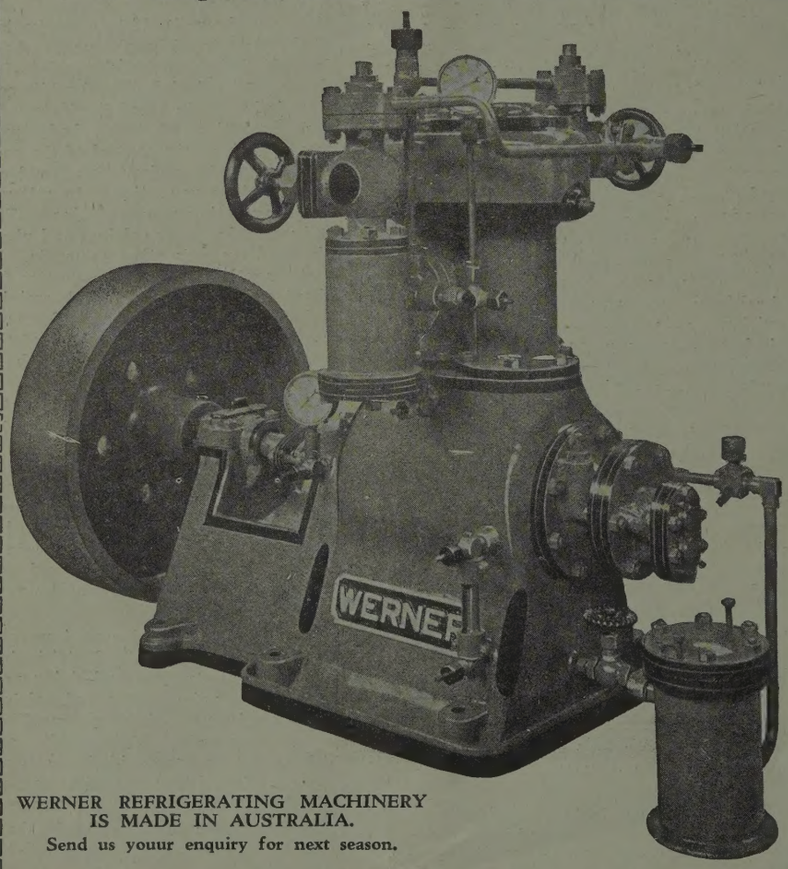

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